OBSERVATIONS
ON
THE DISTINGUISHING SYMPTOMS
OF
THREE DIFFERENT SPECIES
OF
PULMONARY CONSUMPTION,
THE
CATARRHAL, THE APOSTEMATOUS,
AND THE
TUBERCULOUS;

WITH SOME REMARKS
ON THE
REMEDIES AND REGIMEN
BEST FITTED FOR THE PREVENTION, REMOVAL, OR
ALLEVIATION OF EACH SPECIES.

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TO HIS

ROYAL HIGHNESS

THE

PRINCE REGENT,

THIS SHORT TREATISE,

AN ATTEMPT TO ALLEVIATE HUMAN MISERY,

BY ENDEAVOURING TO IMPROVE THE HEALING ART,

IS HUMBLY DEDICATED;

BY A FAITHFUL SUBJECT OF THE BEST OF KINGS,

AND ONE OF THE OLDEST MEMBERS

OF THE HOUSHOLD OF THE PRINCE OF SCOTLAND,

ANDREW DUNCAN *Sen.*

A

LETTER

TO

SIR GILBERT BLANE, BARONET,

ONE OF THE PHYSICIANS IN ORDINARY TO HIS ROYAL HIGHNESS THE PRINCE OF WALES.

MY DEAR FRIEND,

MORE than forty years have now elapsed since I first began to deliver Medical Lectures at Edinburgh; and I have often reflected, with satisfaction, that you were one of the first of my hearers. Since that time, though our different situations in life have prevented frequent intercourse, yet we have never ceased to be steady friends; and I have often had occasion to admire the integrity as well as the solidity of your judgment. Permit me, therefore, to present to you, as an early pupil, a candid critic, and a steady friend, this short Treatise on Pulmonary Consumption; a disease which has long been ranked, and which, I am afraid, must still be ranked, among the *opprobria medicorum*. But we have no reason to despair of obtaining farther improvements in practice, either for the prevention, cure, or alleviation even of Phthisis. I now, therefore, take the liberty of submitting to the Public in general, and to You in particular, the result of my own observations; and after you have carefully perused this little work, I confidently trust, that in return you will favour me with your opinion respecting the conclusions I have drawn from my practice. Some of these conclusions you may have found confirmed, and others refuted by experience. If more urgent business will permit you to communicate to me the result of your own observations on Pulmonary Consumption, I shall esteem it a singular obligation; for, although now in the seventieth year of my age, I am not yet too old to learn; and it will give me no slight degree of satisfaction once more to become the disciple of my *quondam* pupil, by whose judicious and candid remarks I have often before been instructed.

Believe me to be,

Yours ever and sincerely,

ANDREW DUNCAN *Sen.*

PREFACE.

I HERE present to the Public, a very short Treatise, on a very important subject. With little difficulty, I might have extended it to a much greater length. A particular relation of even a selection of those cases from which my observations have been deduced, might have filled a large volume. My object, however, has been to lay before the intelligent reader, not the detail, but the result of my practice, and to state merely the conclusions I have drawn from the facts which I have witnessed in watching the progress of Pulmonary Consumption.

If these conclusions have not been very generally erroneous, they have afforded useful instruction to myself; and if an attentive perusal of them shall afford similar instruction to others, the object which I have in view by this publication will be completely obtained.

EDINBURGH, }
Nov. 30. 1813. }

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OBSERVATIONS

ON

PULMONARY CONSUMPTION.

INTRODUCTION.

Of all the diseases to which the inhabitants of the British Isles are frequently subjected, Pulmonary Consumption, or *Phthisis Pulmonalis,* as it is styled by the best medical writers, may justly be reckoned one of the most fatal. The deaths which it occasions, happening chiefly to those who have arrived at the most engaging period of life, are the most deplorable. It is not therefore wonderful, that this disease should have claimed particular attention from the most eminent medical writers. But notwithstanding the study and labour of ingenious and discerning men for many ages, phthisis pulmonalis still continues to be an opprobrium to the healing art; and the prospect of wiping off this opprobrium, by communicating to the public a successful method of cure, is not great. There is no reason, however, to despair of making some progress in this important object; and if medical practitioners were enabled to distinguish the different modifications under which this disease appears, at early periods, much good might be done.

The following remarks on that interesting subject, are the result of observations made with fidelity and attention for more than half a century: And if they shall enable future writers to improve the means of distinguishing the different modifications of Pulmonary Consumption from each other, they may be productive of some benefit to mankind: For by proper treatment, adapted to each particular modification from an early period of the disease, there can be no doubt that many valuable lives may be saved.

By Phthisis Pulmonalis, or Pulmonary Consumption, is to be understood that affection in which a general wasting or consumption of the body arises from a disease of the lungs. Among eminent writers, it has been a subject of dispute whether phthisis pulmonalis can ever be considered as a proper idiopathic disease. By many, it has been regarded merely as symptomatic of other affections, particularly of Hæmoptysis, Catarrh, Scrofula, Pneumonia, and several other genera. But there can be no doubt that it may justly be considered as an important genus by itself; and that it very frequently makes its approaches in such a gradual and imperceptible manner, as to be beyond the power of art, before it be certainly discovered to exist.

In every instance of this affection, that modification of fever which has been termed *Hectic Fever*, is very generally observed some time before a fatal conclusion takes place. And this fever principally, perhaps even solely, arises from the absorption of purulent matter, or rather from the absorption of a sanious or vitiated purulent matter, which produces in the human system effects much more deleterious than the absorption of mild pus, void of any peculiar fœtor, or other strong sensible qualities. Such a sanious matter, however, when generated in the lungs, may be afforded from different causes. Hence, among those writers who have considered phthisis pulmonalis as a genus of disease, that genus has been divided into many different species. In the System of SAUVAGES, twenty Species are enumerated under this Genus. But from such minute subdivisions, no benefit, and much inconvenience arises. Hectic fever, indeed, produced by purulent matter absorbed from the lungs, may arise from many different accidents, and many different diseases: And thus it cannot be denied, that there is a foundation for many different species of phthisis. But after, in these cases, phthisis is induced, such species can neither be distinguished from each other by the symptoms, nor do they require a different mode of cure. A more simple view, therefore, of the divisions of this genus, may be taken with advantage.

In the division of any genus of disease into species, two great objects are to be had in view. The first and principal object is to point out such species as require a different mode of practice from each other. And the second object is to point out those species which can be distinguished from each other by obvious symptoms during the life of the patient. The distinction of species which can be discovered only by dissection after death, serves merely to perplex and puzzle, without being of any material benefit. On this general ground, and with these objects in view, in phthisis pulmonalis, *three* different *species* may be pointed out, which may not only be distinguished by obvious symptoms during the life of the patient, but which also require some difference in that mode of treatment best fitted for the removal of each.

These species may be distinguished, by the titles of the *Catarrhal*, the *Apostematous*, and the *Tuberculous* Phthisis. The principal circumstance between these requiring variety in the mode of treatment, is the difference in the source from whence the purulent matter is derived. In the first modification, it is merely separated from an inflamed surface, in a manner similar to the separation of pus from a blister-issue. In the second modification, it is furnished from an abscess of a considerable size, which may be formed in the cellular substance of the lungs, as well as of any other part of the human body. In the third, it is furnished from a tubercle, or from the parts surrounding a tubercle, terminating in suppuration; and commonly yielding, not proper purulent matter, but rather an ichorous sanies, somewhat resembling that which is often yielded by lymphatic glands, in cases of scrofula, when they terminate in suppuration. But the distinction of each of these modifications, during the life of the patient, can only be drawn from an accurate account of the symptoms with which they are attended. And with that intention, a short history of each is subjoined.

In every modification of phthisis, the symptoms may be referred to three heads: the pneumonic, or pulmonary symptoms; the symptoms of hectic fever; and the supervening affections, or what may be termed the consequent symptoms. The morbid affections, however, referable to the two last heads, are very much the same in all the species mentioned above; and it is always principally, often entirely, in the pulmonary symptoms, that the three species obviously differ from each other. In describing these affections, then, with a view to the diagnosis, it will be sufficient to give a separate account of the pneumonic symptoms occurring in each different modification of pulmonary consumption.

CHAPTER I.

DESCRIPTION OF THE PNEUMONIC SYMPTOMS OCCURRING IN CATARRHAL PHTHISIS.

THIS modification of phthisis generally begins in a manner very similar to ordinary catarrh, arising from accidental exposure to cold. But after the period at which that affection may be expected to decline, some symptoms are observed to increase. The cough becomes very severe through the day; but is generally remarked to be much aggravated on first going to bed. The patient becomes affected with some degree of dyspnœa, even when in an erect posture; but this is commonly increased by a horizontal position. In general it is not particularly increased by lying on one side more than on the other; and the patient sleeps with equal ease on either side. He is not affected with any fixed or constant pain at the breast. But he complains of a general sense of soreness in the thorax, and not unfrequently he is affected with pretty severe, though transitory pains, sometimes in one side, sometimes in the other.

With the continuance of these symptoms, a change takes place in the appearance of the matter expectorated. The expectoration, as is commonly indeed the case in catarrh, when degenerating into its chronic state, becomes of a white or yellow colour. But it does not acquire that remarkable degree of viscidity which is the characteristic of thickened mucus. It is soon observed to have a peculiar disagreeable taste and smell. The odour which it emits becomes somewhat fetid, particularly upon being burnt in the fire. These changes, however, in the sensible qualities of the matter expectorated, are by no means such as to give certain evidence of its being of a purulent nature.

In most instances, there is no appearance of blood in the matter expectorated. If blood does appear, it is only in streaks, and is merely accidental, adhering to the expectorated matter without any intimate union, and arising from the rupture of some small superficial vessel. The expectorated matter itself has an uniform appearance; yet there is good reason to conclude, that it is a mixture of pus and mucus. This appears from adding it to water. It will often be found, that, in a short time, a considerable portion of it sinks to the bottom of water in a less tenacious form than that portion which swims on the surface; and where such a separation does not spontaneously take place, it may frequently be effected by agitation in the water.

In some cases, without any spontaneous separation, the whole of the expectorated matter will be suspended in the middle of the water in a pyramidal shape, and can neither be properly said to sink nor to swim. Where a portion of the expectorated matter sinks to the bottom of the water, there can be little doubt, that it contains pus as well as mucus; but when it neither sinks nor swims, and cannot be separated by agitation, there is room for hesitating respecting its contents. And if a determination cannot be formed from its specific gravity, we can as little form a certain judgment from its colour, consistence, and smell. For in all these particulars, pure mucus may have a very exact resemblance to a mixture of pus and mucus.

Such, however, is the difference of treatment requisite in any species of phthisis, from that which is proper in catarrh, that it is of great importance to determine, whether the expectorated matter does really contain any pus or not. For this is the chief circumstance by which, before the occurrence of hectic fever, the presence of catarrhal phthisis can be determined.

Besides the tests of purulence, therefore, which are afforded, by the appearance, by the smell, and by spitting into water, other and more certain tests have been sought for; and inquiries on this subject, if they have not led to certainty, have at least done something.

An experimental investigation of a proper chemical test, for distinguishing pus from mucus, when discharged from the lungs by expectoration, was proposed as the subject of a Prize Question, by the Harveian Society of Edinburgh, in the year 1777. On that occasion the prize was adjudged to a Dissertation written by a very able and ingenious young man, Mr Charles Darwin, son to the celebrated author of the Zoonomia. By the untimely death of that excellent young man, he was prevented from prosecuting his discoveries, or from publishing to the world what he had discovered. But Dr Erasmus Darwin, after the death of his son Charles, published an account of these experiments, as well as some other manuscripts which the young man had himself intended for publication. Without entering minutely into the subject, it may be sufficient to observe, that Mr Darwin drew from his experiments the following conclusions.

1. Pus and Mucus are both soluble in sulphuric acid, although in very different proportions, pus being by far least soluble.

2. The addition of water to either of these solutions decomposes it. The Mucus thus separated either swims on the top of the mixture, or forms large flocculi suspended in it; whereas the Pus falls to the bottom, and forms, on agitation, an uniform turbid mixture.

3. Pus is diffusible through diluted sulphuric acid, though Mucus is not: And the same also occurs with water, or a solution of sea-salt.

4. Nitrous acid dissolves both Pus and Mucus. Water added to the solution of Pus produces a precipitate, and the fluid above becomes clear and green; while water and the solution of Mucus form a turbid dirty-coloured fluid.

5. Alkaline lixivium dissolves, though sometimes with difficulty, Mucus, and generally Pus.

6. Water precipitates Pus from such a mixture, but does not precipitate Mucus.

7. Where alkaline lixivium does not dissolve Pus, it still distinguishes it from Mucus, as it then prevents its diffusion through water.

8. Coagulated lymph is neither soluble in concentrated nor diluted sulphuric acid.

9. Water produces no change on a solution of serum in alkaline lixivium, until after long standing, and then only a very slight sediment appears.

10. Corrosive sublimate coagulates Mucus, but does not coagulate Pus.

If these conclusions be well founded, and hold at least generally, if not universally, it appears, that strong sulphuric acid and water, diluted sulphuric acid, and caustic alkaline lixivium and water, will serve to distinguish Pus from Mucus; that the sulphuric acid can distinguish it from coagulable lymph; and the alkaline lixivium from serum. When, therefore, any one entertains doubts about the composition of expectorated matter, let him dissolve it in sulphuric acid, and in caustic alkaline lixivium, or the Aqua Potassæ, as it is now styled in the *Edinburgh Pharmacopœia*. Let him then add pure water to both solutions. If there be a precipitation in each, he may be assured that some Pus is present. But if there be a precipitation in neither, it is a certain test, that the expectorated matter consists entirely of Mucus.

These are, perhaps, the best criteria yet discovered for ascertaining whether expectorated matter does or does not contain a mixture of pus. Where it is found to be merely mucus, we may safely conclude, that the disease is entirely catarrhal; but where a mixture of purulence, though to a small extent only, is detected, we may conclude that it is an incipient Phthisis, even although no symptoms of hectic fever have yet taken place.

CHAPTER II.

DESCRIPTION OF THE PNEUMONIC SYMPTOMS OCCURRING IN THE *APOSTEMATOUS* PHTHISIS.

THAT modification of pulmonary consumption which may be termed the Apostematous, and which immediately arises from a large abscess formed within the thorax, is more distinctly marked than the catarrhal phthisis. It is a less frequent disease than the catarrhal; but when it occurs, it is more generally fatal.

The former, as has already been observed, is very commonly ushered in by cough, with copious expectoration, and is almost universally excited by the action of external cold, or rather of sudden transitions from heat to cold; and to these transitions the human species are perhaps more exposed in Britain than in any other country. The present species, again, which depends upon a large apostema within the chest, may be excited by a variety of different causes. It may be produced by any accident giving rise to an inflammatory affection, either in the lungs, or in those membranes by which they are surrounded; and an inflammation of the thoracic viscera, terminating in a state of suppuration, is perhaps as frequent as a similar termination from the inflammation of any other part.

One of the most frequent causes from which an abscess in the chest derives its origin, is an hæmorrhage taking place from the lungs. This, indeed, is so much the case, that Dr Cullen, in his Nosological System, has not considered Phthisis as a proper genus of disease, but has merely ranked it under the genus of Hæmoptysis, and viewed it as a sequela of that affection. But this is certainly an improper view of one of the most important genera of disease to which the human body is subjected.

That, however, the apostematous phthisis often begins with a profuse spitting of blood, is unquestionable. Hæmorrhage, when occurring from the lungs, as well as from other parts of the system, may be either of the active or passive kind. Both these modifications of hæmorrhage, when occurring even to a great degree, have not unfrequently a speedy termination, without any bad consequence; or at least without producing phthisis. As well as the vessels of the nose in epistaxis, those of the lungs, when ruptured, may be healed by the first intention. Nay, hæmorrhage from the lungs, as well as from the nose, may sometimes be even salutary, as removing a plethoric state. Yet in many instances, both active and passive hæmorrhage from the lungs terminates in that species of inflammation which has been termed the Suppurative; and this more frequently happens as a consequence of hæmorrhage from the lungs, than from any other part of the body, probably in consequence of that constant state of action to which the lungs are subjected in respiration. Hæmoptysis, then, may justly be esteemed one of the chief causes from which a large vomica or apostema in the lungs derives its origin.

But it is by no means the only source of the apostematous phthisis. Even larger abscesses than those commonly arising from hæmorrhage are not unfrequently observed from other causes. The lungs themselves, and the membranes by which they are surrounded, it is well known, are frequently subjected to a state of active inflammation ; and inflammation in this, as well as in other parts of the system, may terminate in a state of suppuration. Thus, apostematous phthisis may be induced from several genera, referred to the Order of *Phlegmasiæ*, which affect the lungs ; from Pleuritis, Peripneumonia, or the like.

Besides these genera of disease, suppurative inflammation giving rise to a large abscess within the chest may proceed from accidental injuries, to that part of the body. Thus, a large apostema in the lungs, may be the consequence of a severe blow received upon the chest, or a wound of the lungs from a sword, a bullet, or the like. Many other causes might also be enumerated, as at times producing an abscess of the lungs. But the particular causes by which such abscesses are in general produced, may be referred to one of the three general heads already mentioned, Hæmorrhage, Phlegmasia, or Injury to the Breast.

When, from any particular cause, an apostema is formed in the lungs, those pneumonic symptoms with which it is attended are in several respects very different from the pneumonic symptoms which occur in the catarrhal phthisis; and in the apostematous phthisis, the pneumonic symptoms are considerably different before the rupture of the abscess, from what they are afterwards.

In most instances of the apostematous phthisis, the first symptom of the affection is a fixed pain of the breast. This pain is not indeed in general excruciating; but it is almost constantly felt to some degree, and is commonly referred to some particular spot. For the most part, it is rather a gravative than an acute pain; but it is not unfrequently of the pulsating kind. Whatever the nature of the pain may be, it is very commonly attended with some degree of dyspnœa. With that dyspnœa the patient is sensibly affected, even when in an erect posture: but it is in general much increased in a horizontal position; and it is often particularly aggravated when the patient lies on one side rather than the other. Often it happens that the patient can breathe only when he lies on that side in which the apostema is situated; the reason of which is abundantly obvious.

With this state of respiration, there occur frequent and severe fits of coughing; but for some time these are attended with very little or even no expectoration. In this, then, there is a manifest difference between catarrhal and apostematous phthisis: For the former is from the beginning attended with copious expectoration; but in the latter species, the most remarkable appearances are those which occur on the bursting of the apostema. This event is generally preceded, or at least attended, by a slight degree of bloody expectoration, probably proceeding from a rupture of the vessels of the integuments. When this occurs, it is almost immediately succeeded by a copious discharge of pure purulent matter. This pus is sometimes coughed up at once, to the extent of several ounces, nay, when the apostema is very large, even of several pounds; in so much, that it not unfrequently threatens, and has sometimes even given rise to suffocation.

The matter thus discharged, has the same appearance, the same smell, and other sensible qualities which are observed in pus, when it is discharged by opening a large abscess when situated on any part of the surface; and although it be discharged by coughing from the lungs, it is in general without any mixture of mucus.

After the first copious discharge ensuing on the immediate rupture of the apostema, the preceding symptoms are commonly somewhat alleviated. This is particularly the case with respect to the pain of the side and dyspnœa. The gravative or pulsating pain, referred to a a particular spot of the breast, is in general much diminished. The dyspnœa also is much alleviated; and after a copious discharge, the patient finds that he can breathe with equal ease when lying on either side.

Often, also, soon after the rupture of an apostema in the lungs, the cough becomes much less severe than formerly: For although the fits of coughing may be more frequent, yet they are no longer fruitless efforts, but are sooner terminated by free expectoration. Still, however, there is in general for some time after the rupture of the vomica a discharge, in consequence of coughing, of the same matter as when the rupture first took place. But in no long time, the matter expectorated has less the appearance of pure pus. It acquires a thinner consistence, and not unfrequently a reddish tint. When this last occurs, it may always be considered as arising from some mixture of blood.

After the expectoration arrives at this state, the hectic symptoms, if they had not before taken place, are soon observed; or, if they were before obvious, they are soon much aggravated.

From a free discharge of the purulent matter, even after a considerable degree of hectic fever has taken place, some chance is certainly afforded of the healing of the ulceration, and the recovery of the patient. But more frequently, from an increase of the hectic fever, and from what may be called its consequent symptoms, colliquative sweats, colliquative diarrhœa, and the like, this modification of phthisis has a fatal termination.

CHAPTER III.

DESCRIPTION OF THE PNEUMONIC SYMPTOMS OCCURRING IN THE *TUBERCULOUS* PHTHISIS.

Of all the species of phthisis, the Tuberculous is both the most frequent and the most dangerous. That it should be the most frequent is, perhaps, in some measure the consequence of its arising from the greatest variety of exciting causes. But however numerous and varied these exciting causes may be, all of them operate as giving rise to this modification of phthisis on one general principle, viz. as inducing those peculiar tumours termed tubercles, which have been found in the lungs of patients who have died of this modification of phthisis.

The appearance of these tumours has been accurately described by several eminent writers on morbid anatomy. Here, it is sufficient to observe, that they are in general found under the form of hard substances, which, when cut, appear to be solid bodies of a whitish colour. Respecting their nature, different opinions have been entertained. Some suppose them to be entirely inorganic bodies, formed of the coagulable part of the circulating blood. And that they are often incapable of being penetrated even by the finest injections, is certainly true. But a more common opinion is, that each tubercle may be considered as a lymphatic gland in a particularly diseased state; that this diseased condition is the consequence of scrofula; and that the tuberculous phthisis may in every instance be considered as scrofula affecting the lungs.

In support of this doctrine, there are many probable arguments; and, among other things, this opinion is corroborated, from its being a well known fact, that tuberculous phthisis is often observed as a hereditary disease in scrofulous families; from its occurring most frequently at a particular period of life, between the age of fifteen and twenty-five; and from the striking resemblance which may often be observed between tubercles of the lungs and diseased mesenteric glands, producing tabes or phthisis mesenterica in those who are evidently subjected to hereditary scrofula: For in the mesentery, the diseased tubercles, though they were unquestionably at first lymphatic or lacteal glands, are equally inorganic as tubercles of the lungs. But, without offering at present any further observations on the nature of those tumours which give rise to that modification of phthisis which may be denominated the Tuberculous, I shall proceed briefly to describe the symptoms with which it is commonly attended.

Of all the modifications of phthisis, the pneumonic complaints which occur in the tuberculous are the least alarming. Hence, this species often subsists for a considerable time before it awakens the attention of the patient. This the rather happens, because the fever with which the tuberculous phthisis is attended at its commencement is in general accompanied with high spirits. And from this state of exhilaration, even to the latest periods of the disease, patients affected with tuberculous phthisis have often no apprehension of their own danger.

At the commencement of tuberculous phthisis, neither the cough nor dyspnœa are by any means urgent; and in many instances, even to the very end of the affection there hardly occurs any expectoration. The cough, in general, is of the short tickling kind, without being violent; and may be termed rather a *tussicula* than a *tussis*. But while it takes place without any great uneasiness, it is still troublesome, from being very frequent. Notwithstanding, however, these frequently repeated efforts towards expectoration, the irritating cause is not removed, and those slight fits of coughing, terminating without the smallest expectoration even of mucus, are again speedily renewed.

In most cases, no remarkable pain of breast attends the tuberculous phthisis; and when pain occurs, it is neither fixed to any particular spot, nor is it constant.

In many instances, no dyspnœa whatever occurs in the tuberculous phthisis; or at least, difficulty of breathing is observed only upon motion or exertion. When the patient remains at rest, the breathing is perfectly free; and it is very little if at all affected by change in the position of the body. Contrary to what happens in the Apostematous Phthisis, the patient can lie with equal ease on either side.

In this state of the pneumonic complaints they very seldom alarm the patient. And if they give any alarm to others, it is only in general from their long continuance, and from their occurring in habits with whom there is reason to suspect predisposition to phthisis. That this tussicula is the first stage of tuberculous consumption, is chiefly inferred from the remarkable

able loss of strength, and evident wasting of the habit with which it is soon attended.

In the incipient state of the tuberculous phthisis, the frequent tickling is in general also accompanied with a peculiar change in the appearance of the eyes. The red vessels which are observable in the tunica adnata of those in a state of health, are no longer obvious, and that part of the eye obtains very much the colour and appearance of a pearl.

To these slight pneumonic symptoms, even without the occurrence of any expectoration whatever, either purulent or mucaginous, distinctly marked hectic fever often supervenes. In other cases, however, after the cough has been long *dry*, as it is called, some degree of expectoration occurs. But in almost no instance has it the appearance either of proper purulent matter or of blood. Sometimes a slight tinct of blood is observed; but never such a degree of hæmoptysis as is often observed to precede apostematous phthisis. Most frequently, the matter expectorated is a thin watery fluid slightly tinged with blood; and it has very much the appearance of that sanies which is often discharged from scrofulous sores. When this state of expectoration takes place, hectic fever is seldom wanting to a great degree.

After having thus briefly described the pneumonic symptoms in each of the three different species of Phthisis Pulmonalis, we shall next proceed to give some account of the Hectic Fever, which may be considered as common to all the species.

CHAP.

CHAPTER IV.

OBSERVATIONS ON THE HECTIC FEVER IN PHTHISIS PULMONALIS, ATTENDING THE SECOND STAGE OF THE DISEASE.

THE hectic fever, which attends every species of pulmonary consumption, particularly those three species which have been now described, has very much the same appearance in all of them; and indeed, symptoms nearly similar attend hectic fever, when consumption or tabes arises from suppuration occurring not in the lungs, but in other parts of the body, and yielding ill-conditioned pus.

The most probable opinion is, that in all these cases the hectic fever is the consequence of ill-conditioned pus being absorbed by the valvular lymphatics, and thus introduced into the mass of blood. It must, however, be allowed, that, with respect to the cause of hectic fever, all practitioners are not agreed. Some contend, that it arises merely from a certain irritable state of the system, induced by the absorption of pus. But still, even according to this hypothesis, hectic fever is ultimately an effect of absorption. And when we consider the influence of certain articles introduced into the circulating system, in immediately inducing fever, there is great reason for presuming, that absorbed ichorous matter may immediately give rise to hectic symptoms.

Of this a strong presumption is afforded, from experiments which have lately been made, by injecting different fluids into the bloodvessels of living animals. It has been found, that small quantities of milk, and other bland fluids, may thus be injected without any inconvenience. But it has also been found, particularly in the trials which have been made *De chirurgia infusoria renovanda*, that the injection, even of small quantities of acrid fluids, such as an infusion of senna, a decoction of guaiac, or the like, have the effect of exciting fever in a very short time. Without entering into the consideration of conjectures as to the immediate cause of hectic fever in pulmonary consumption, it is sufficient to observe, that it often follows the discharge of purulent matter by expectoration, particularly when that matter, in place of appearing under the form of mild thick white pus, assumes more the appearance of a bloody sanies.

The hectic fever is very generally not of a continued form, but consists of repeated paroxysms; or at least, although quickness of pulse, and some other febrile symptoms, may be constant, yet, in this fever, there are very remarkable remissions and exacerbations. These exacerbations are very generally ushered in by a sense of coldness; often even to such a degree as to induce shivering. It is however but seldom that the cold stage in the hectic paroxysm arises to the same height as in proper intermittents; and in most instances it is rather a partial than a general sense of coldness: that sensation being more especially felt at particular parts, as in the hands, the feet, or along the course of the spine. But, even in these places, however disagreeable the sensation may be, there merely takes place a sense of coldness, without any real cold: For when the parts to which this sensation is referred, are accurately examined by the thermometer, they are found to possess the natural degree of heat.

To this coldness or shivering, a sense of increased heat soon succeeds. This sensation is very commonly in some degree extended over the whole body. But it is also more especially felt at particular places. Often there occurs a peculiar glowing heat in the face; and this is commonly attended with manifest flushing of the countenance. This redness, however, is not always general, but is frequently under the form of a circumscribed redness in the most prominent parts of the cheek.

If the heat be sometimes partially increased in the face, it is often still more so in other parts of the body. This is particularly felt in the palms of the hands, and in the soles of the feet; but notwithstanding the sensation of heat in these parts, even when it is almost intolerable, there is still no obvious redness, nor indeed any change of appearance, in the part to which it is referred. It consists merely in a sense of burning heat, often attended with a parched state of the skin at the part thus affected.

With the augmentation of heat, there is also very commonly an increase of the celerity of the pulse during the hectic paroxysm; and sometimes it is so quick that it can hardly be accurately numbered. But in many cases, it is not much more accelerated during the paroxysm than during the remission. For after the commencement of the hectic state, the pulse with most patients is considerably quicker than it was before, seldom being observed under 100, and frequently above 120. This want of complete apyrexia, often affords a diagnosis between hectic and quotidian fever, where the pulse in the intervals between paroxysms returns to the the natural standard.

In some instances of hectic fever, the pulse is full and soft. But more frequently it is small and hard, both during the paroxysm and also during the intermission.

Another circumstance commonly attending the hectic paroxysm, is some degree of thirst; but it is seldom that this symptom is considerable. Thirst almost never takes place to the same degree as in other modifications of fever; and in very few cases is the tongue either parched, or covered with indurated mucus, giving what is called a *furred tongue*. In general, during the whole course of the disease, even during the time when the paroxysm is most severe, it continues moist. It has in many cases an uncommonly clean and red appearance. And in the last stages of the disease, it is often found in an abraded and even in an ulcerated state. But this appearance may be considered as unconnected with the fever itself, and probably in general arises from the condition of the matter discharged by expectoration. But as the tongue is very rarely observed to be parched, so the thirst is seldom augmented to any considerable degree.

While the thirst in hectic fever is in general not very considerable, it has also been remarked, that the appetite for solid food is rarely so much diminished as in other fevers ; and sometimes, even in the very last stages of the disease, when the hectic symptoms are most acute, the appetite is uncommonly keen. Phthisical patients have repeatedly been observed to make a hearty dinner of beef-stakes a very few hours before death.

Besides the want of thirst, there is also another particular in which hectic fever differs from most other modifications of that disease. It is without that distressing symptom attending most idiopathic fevers, which has been termed the *anxietas febrilis*,—a sensation which cannot easily be described, but which rarely fails to be well remembered by any one who has laboured under idiopathic fever, particularly of the typhoid type. So far are hectic patients from being affected with this febrile anxiety or depression, that they in general entertain sanguine hopes of a speedy recovery ; and during the severity of the paroxysm, they are often observed to have a peculiar flow of spirits, and uncommon quickness of genius.

The symptoms thus occurring in the cold and hot stages of the hectic paroxysm, in a short time begin to subside ; and after continuing for a few hours, they often terminate without any obvious appearance. This is particularly observed to be the case with those paroxysms which take place about mid-day, or in the forenoon, and if the patient be not confined to bed. In other cases, however, the cold and hot fits of the hectic fever are succeeded by sweating, in a manner similar to what happens in the intermittent paroxysm. Sweating is particularly remarked to occur when the patient is in bed during the hectic accession. Accordingly, it is a common consequence of those cold and hot fits which occur during the night; and indeed, profuse sweating, when the patient first awakes in the morning, may be considered as one of the most common symptoms of the hectic fever.

The urine of patients subjected to hectic fever, particularly what is discharged during or soon after the paroxysm, is for the most part high coloured. Upon standing, there soon occurs a separation of what has been termed *furfuraceous matter;* a matter having some resemblance to the bran of wheat. But it seldom happens that this matter sinks to the bottom of the urine; and it is but very rarely that the lateritious sediment of the urine, resembling brick-dust, which is so common after the paroxysm of the intermittent fever, is observed in the hectic.

The discharge by the belly in hectic fever is for the most part but little affected. For a long period, it is not attended with that bound state of the belly which is the common concomitant of other fevers. At least, long after hectic paroxysms have been distinctly observed, the discharge by the bowels continues nearly in the natural state; and it is only in the latter stages of the disease that the colliquative diarrhœa comes on. Hence, it has been called a *consequent symptom.*

For the most part, at an early period of phthisis, particularly in the tuberculous, the menstrual discharge is observed to become very scanty, and often entirely to cease. But this is hardly to be considered as particularly connected with the hectic fever; and the same observation may be made with respect to the remarkable loss of strength and exhaustion of the habit which occur in the progress of this disease, although it must be allowed, that these symptoms always take place the most rapidly where the hectic fever is what has been termed the most *exquisite.*

With respect to the recurrence of the paroxysms of the hectic fever, the same type has not always been observed. By some writers, indeed, the paroxysms have been alleged to occur with great regularity twice every day; the first attack occurring about noon, and the second before midnight, and commonly terminating with sweating about two in the morning. It has been more generally observed, that a paroxysm occurs after eating, especially after dinner. But the paroxysms of the hectic fever are by no means in general observed to return with the same regularity as in any type of intermittent fever, whether quotidian or double tertian. In most instances, one accession only is observed in the course of the day. In other cases, two, or even three accessions may be observed in the same length of time. But these do not occur with any regularity, or at any fixed time: And they are often distinctly observed, to be excited both by taking food, and by the action of external cold, at whatever period of the day the patient may have been exposed to it.

CHAPTER V.

OBSERVATIONS ON THE SYMPTOMS OCCURRING IN THE LAST STAGE OF PHTHISIS PULMONALIS; WHAT MAY BE TERMED THE SUPERVENING OR CONSEQUENT SYMPTOMS.

After the hectic fever has been observed for some time, and particularly if it be of the acute or exquisite kind, some symptoms which had before taken place, are very rapidly augmented; and others, which had not been observed, supervene. These have, in general, been considered as sequelæ of the hectic fever. But it may, perhaps, be a matter of doubt, whether, with strict propriety, they can be called *consequent symptoms*. Perhaps, like the hectic fever itself, they are merely symptomatic of the progress of the disease,—of the absorption of an ill-conditioned purulent or ichorous matter from the lungs. But the probability is, that, if not induced, they are at least much aggravated by the hectic fever. And whatever their cause may be, they may certainly be considered as constituting the third stage of the disease.

At the head of the consequent symptoms, as one of the most obvious, emaciation or wasting of the habit may justly be mentioned. It is indeed true, that, even from the beginning of every modification of phthisis, the usual fullness or plumpness of the patient is somewhat diminished. But after the hectic fever has subsisted for some time, this emaciation is very much increased. It is obvious, on examination of any part of the body. It evidently appears from clothes, which were before tight, becoming too wide, and it is still more certainly demonstrated by the loss of weight. But in no part of the body is it more conspicuous than in the face. This is so much the case, that the *facies Hippocratica,* as it has been called, where every bone of the face is prominent, is, perhaps, more frequently observed in pulmonary consumption than in any other disease. But when the trunk of the body is examined, the state of the spine shews an equal projection of the bones, in parts remote from the face. In short, in the last stage of phthisis, the patient often becomes as it were a living skeleton.

In this emaciation, there can be no doubt, that there occurs a diminution both of fluids and solids; and that the loss in some degree extends not merely to the softer solids, but even to the firmest and hardest, to the bones themselves. But of all the parts of the body, there is reason to believe, that this change in appearance chiefly arises from the consumption of fat; a substance which, in the temperature of the human body, may be considered as of an intermediate consistence between solid and fluid; and a substance which, it is well known, readily admits of removal by the valvular lymphatic absorbents, after it has been deposited in the membrana adiposa in any part of the body. That during the course of phthisis pulmonalis much fat is removed from the cells of this membrane, and very little deposited in them, cannot be doubted. This is clearly demonstrated by the dissection of those who have died of pulmonary consumption; for it is then found that the fat is entirely removed, not only from the surface, but also from the interior parts; and hardly a vestige of fat is to be found either at any of the joints, about the heart, or even in the omentum, parts in which it is certainly most necessary for the purposes of the animal economy.

With the emaciation, it cannot at all seem wonderful that a state of debility should occur. A loss of muscular vigour, as well as evident wasting of the habit, is indeed one of the earliest symptoms of phthisis. Those subjected to any modification of the disease, soon become incapable of their usual exertions; and after even very slight exertion, they feel an uncommon degree of fatigue. But this debility rapidly increases in the last stage of the disease, and particularly where the hectic fever is very acute. The loss of strength is sometimes even greater than in proportion to the evident exhaustion of the body, and might lead to the supposition, that in such cases there was a greater absorption from the muscles than even from the fat.

Some writers have considered this debility as the sole and primary cause of the disease; and, entirely overlooking the obvious morbid affection of the lungs, they have placed phthisis at the head of the scale of Asthenic Diseases, as they have termed them, and accordingly have inferred, that pulmonary consumption is to be cured by the use of stimulants, increasing excitement. But this reasoning is too absurd, and the practice too pernicious, to be adopted by any man of common understanding. Debility is a necessary consequence of the continuance of every disease, and must necessarily occur in phthisis as well as in others. But it rapidly increases towards the last periods of the disease, when there is reason to believe that the circulation has almost every where failed in the extreme vessels.

Of the failure of circulation in the extreme vessels, in phthisis, evidence is afforded in the appearance of the countenance, and particularly in the appearance of the eye. It is indeed true, as has already been remarked, that in the paroxysm of the hectic fever, a circumscribed redness of the cheek is often observed. But at other times there is very generally an uncommon paleness of the countenance, and indeed of the surface over the whole body, clearly demonstrating a want of red blood in the extreme vessels. This also manifestly appears in that change which the tunica adnata of the eye undergoes. In a state of health, some red vessels are in general obvious in this part of the eye. But as phthisis advances, these gradually disappear, and the whole of the adnata becomes of a pearly white colour.

Another remarkable appearance which often takes place on the surface of the body in phthisis, and which is probably also the consequence of want of circulation in the extreme vessels, is that the hairs are observed to fall off, a necessary consequence of the want of nourishment supplied at their bulbs. To a similar want of nourishment is probably also to be referred the crooked, wreathed, or *adunque* shape, as it has been called, which the nails often assume in the last stage of pulmonary consumption.

To a want of due propulsion of blood to the the extreme vessels, it is not improbable also that the condition of the menstrual discharge commonly attendant on phthisis is to be attributed. It must indeed be admitted, that in some instances of consumption, the menses continue regular to their periods, and flow in the usual quantity to the very last stage of the disease. But much more frequently, the discharge is scanty, or altogether wanting, even from the commencement. And from this circumstance, phthisis at the commencement is sometimes mistaken for amenorrhœa. But whatever may be the condition of the menstrual flux in the beginning of the disease, a total want of this discharge in general very soon supervenes after the hectic fever is distinctly marked.

When regard is paid to the remarkable loss of strength with which phthisis is attended, it is not wonderful that towards the close of the disease œdematous swelling of the legs should often appear. This symptom, however, notwithstanding the great debility, is neither universal, nor very troublesome. And in some cases, after it has taken place to a considerable degree, notwithstanding the progress of the disease towards a fatal conclusion, and the increase of the weakness of the patient, it again decreases,—an evident proof that the action of the absorbent vessels is not so much weakened as that of the muscles subservient to voluntary motion.

It has already been remarked, that even during the accessions of the hectic fever, the tongue is rarely observed to be parched. On the contrary, it often assumes an uncommonly red, and what may be called a raw appearance. But the affection of this organ often goes farther; and both upon the tongue and other parts of the mouth, aphthous spots appear, which in the end degenerate into ill-conditioned ulcers. These aphthæ and consequent ulcerations are particularly observed in the apostematous phthisis, when the expectoration of purulent matter is considerable, and when, in place of the appearance of mild pus, the discharge has degenerated into an ichorous state. This affection of the mouth, has by some been ascribed, and probably not without reason, to the action of the expectorated matter on the mouth.

To the same cause, acting on other parts of the alimentary canal, especially on the intestines, has been ascribed another symptom, very common and very distressing, the colliquative diarrhœa, which often occurs in the end of phthisis, and which certainly has often very great influence in hastening a fatal termination of the disease. That colliquative diarrhœa may in some instances arise from purulent matter brought from the lungs to the mouth, and afterwards swallowed, may be true. But certain it is, that this diarrhœa often takes place where there is no expectoration of purulent matter, particularly in cases of tuberculous phthisis. Hence, it must often arise from some other cause; and perhaps it is with greater justice attributed to the influence of absorbed acrid matter, after entering the blood, and to the general debilitated state of the system which phthisis induces. But whatever its cause may be, there can be no doubt that it is one of the supervening symptoms, which contributes very much to bring the disease to a fatal termination.

But of all the supervening symptoms, there is perhaps no one which tends more to the rapid exhaustion of the patient than the colliquative sweats. These, as has already been observed, sometimes occur even at an early period of the hectic fever, and are particularly observed in the morning, after an exacerbation has taken place during the night. But they are by no means to be considered as similar to those sweats, which constitute the third stage of an intermittent paroxysm. They are by no means productive of the same relief from fever. They cannot be said to induce an *apyrexia*. On the contrary,

trary, an evident increase of weakness and languor is very generally the consequence of their being long continued and profuse; and this equally happens whether they be extended over the whole body, or confined to particular places. These colliquative sweats, even when the most profuse, are not unfrequently confined to the head and shoulders; and when this is the case, the progress of the disease to a fatal termination is usually the most rapid.

With these supervening symptoms, and the continuance of the hectic fever, it is by no means surprising, that the disease, after arriving at this state, should in almost every case have a fatal termination. Though the mental faculties continue distinct at the commencement of the hectic fever, yet delirium of the low kind at length necessarily arises, as the consequence of a very debilitated state, and is in general a prelude to the death of the patient.

CHAPTER VI.

OF THE DIAGNOSIS IN PHTHISIS PULMONALIS.

THE diagnosis in cases of phthisis pulmonalis may naturally be referred to two heads. *First,* The means of distinguishing phthisis from other diseases; and, *2dly,* The means of distinguishing the different species of phthisis from each other.

With regard to the distinction between phthisis and other diseases, in most cases, at least, there is no great difficulty. Although in the beginning of phthisis, there is certainly no symptom which can be held forth as a pathognomonic or peculiar to pulmonary consumption, and not occuring in any other affection, yet there are different symptoms always attendant on phthisis, which in many other diseases are never observed. Even in the very earliest stages of this affection, there is always more or less cough; and this cough is very generally attended with some degree, both of dyspnœa and of pain of breast. Sometimes, indeed, in the earliest stages of phthisis, what takes place in the way of coughing, may be termed rather *tussicula* than *tussis*. Still, however, cough exists at least under a certain form. Wherever, therefore, cough, with the concomitants already mentioned, is entirely awanting, it may with certainty be concluded, notwithstanding great loss of strength, wasting of the habit, quickness of pulse, and other hectic symptoms, that pulmonary consumption does not occur, and that the tabes or phthisis to which the patient is subjected, must proceed from some other cause than an affection of the lungs.

The only difficulty, therefore, of distinguishing between phthisis and other diseases, is in those cases where cough, with some degree of pain of breast, and dyspnœa, take place. This, however, not unfrequently happens in *catarrhal* affections, the consequence of accidental exposure to cold. Catarrh has often many symptoms in common with incipient phthisis. But this similarity in an especial manner takes place, between common catarrh from cold, and that species of pulmonary consumption which has been described under the title of the catarrhal phthisis.

In that modification of phthisis, indeed, the disease, as has already been remarked, often subsists for a considerable time in a state which may strictly and properly be denominated catarrh; and it is only from the *Catarrhus à frigore*, that a degeneracy takes place into the *Phthisis catarrhalis.* It is therefore by no means surprising that cases should occur, in which it is very difficult to determine when the catarrh ends, or when the phthisis begins.

With a view, however, of directing the best mode of treatment, it is always desirable that a practitioner should be able to say with certainty as soon as possible, whether the disease be catarrh or consumption. And those marks by which catarrhus à frigore is distinguished from phthisis catarrhalis, with still greater certainty serve to distinguish catarrh from other species of phthisis.

Where cough, apparently arising from exposure to cold, has subsisted for some length of time, although not severe, but merely under the form of tussicula, some suspicion may be entertained of phthisis, when that cough comes to be attended with manifest wasting of the habit, and remarkable loss of strength. That these symptoms, indeed, are often the consequence of mere catarrh, cannot be denied; yet they are seldom to the same extent, or make the same rapid progress, where the affection continues to be merely catarrhal, as when it degenerates into phthisis.

The suspicion arising from these circumstances, cough, combined with wasting of the habit, and loss of strength, is much corroborated, if the patient be still at an early period of life, particularly between the age of fifteen and twenty-five: Not, indeed, that phthisis may not ensue as a consequence of catarrh at other periods of life; but it is chiefly at the early and vigorous period of life that consumption is a consequence of catarrh. In advanced life, obstinate catarrh much more frequently degenerates into the chronic state, or what has been called the *Catarrhus senilis.*

Besides the circumstances which have already been mentioned, another ground for distinction between phthisis and catarrh is afforded by the state of the pulse. In phthisis, quickness of the pulse is a much more frequent symptom than in catarrh. This, indeed, can by no means be depended upon by itself; nor is it always to be met with at the commencement of the disease. In some instances of phthisis, it is only a late occurrence; and in cases of mere catarrh, it not unfrequently takes place, especially at the commencement of the disease. But, when preternatural quickness of the pulse continues for a considerable time, it is much more frequently observed where acute catarrh terminates in phthisis, than when it degenerates into its chronic state.

From these different particulars, in the greatest number of cases a diagnosis may be formed, with a considerable degree of certainty, between phthisis and catarrh, even in the early stages of the disease. But, when in conjunction with these, it appears from the tests already mentioned, that the matter expectorated contains a mixture of pus, there can be no doubt, that the patient is subjected to pulmonary consumption. When to the pulmonary affections, hectic fever supervenes, and when to these are superadded the consequent symptoms, particularly colliquative sweats, and colliquative diarrhœa, we have not only certain evidence that the patient is subjected to phthisis, but may with great probability conclude that the disease will have a fatal termination.

If, however, it be important in practice to distinguish phthisis from other diseases; so it is also of consequence to distinguish the different species of Phthisis from each other. Three species have been pointed out as deserving particular attention, the Catarrhal, the Apostematous, and the Tuberculous: And the following observations with regard to each, point out those marks by which they may be most readily distinguished.

The *Catarrhal Phthisis* may occur at any age, while the two other species, but particularly the Tuberculous, are most frequently observed at a certain period of life, between the age of fifteen and twenty-five. There is ground, therefore, for suspecting this species when symptoms indicating Phthisis are observed at that period of life when the other two species are less frequent. Catarrhal Phthisis takes place with any habit; while the Apostematous is most frequent with the sanguine habit, and the Tuberculous with those who are known to have a scrofulous constitution. Hence some ground for distinction is afforded from attending to the habit of the patient.

But if a diagnosis may in some degree be derived from predisposition, Catarrhal Phthisis is still more strongly marked by attending to the occasional cause. In most instances, this modification of pulmonary consumption has its commencement from the obvious action of cold, inducing at first a simple catarrhal affection. Thus, then, it begins with all the ordinary symptoms of the catarrhus à frigore; and in this respect from the commencement is different from the two other modifications of phthisis. In a short time, it is distinctly characterized by the state of the cough; for it is soon attended with copious expectoration. It is marked also by the state of pain at the breast. In most instances, the patient is not affected with any such pain; and when it does occur, it is not confined to any particular part. The dyspnœa in this species, as well as in the apostematous, is aggravated by an horizontal posture; but it is peculiar to the Catarrhal Consumption, that the dyspnœa is relieved by expectoration, even although only to an inconsiderable degree. It is also marked by another circumstance respecting the affection of breathing. In this species, the patient, when in an horizontal posture, can lie with equal ease on either side.

While the catarrhal consumption is thus attended with many peculiarities, so there are also various symptoms which afford evidence of the *Apostematous*. When phthisis evidently occurs, there is some presumption of its belonging to this species, where the patient has been previously of a vigorous and plethoric habit, particularly when with these habits it occurs during the prime of life. This presumption is strengthened, if there be at the same time no marks of a scrofulous habit in the patient; and if upon due inquiry it shall be found, that the patient has no hereditary disposition to scrofula, that no scrofula has been observed in his family, and that none of his near connections have died of phthisis. There is also reason for inferring the existence of this species, where the patient has formerly been subjected to active hæmorrhage, either from the lungs, or even from the nose. This inference may be drawn with still greater confidence, where symptoms of phthisis immediately succeed to a considerable degree of hæmoptysis. And there is almost certainty, that the phthisical symptoms proceed from an apostema in the chest, when they are the immediate consequence of a violent inflammatory affection of the pneumonic kind. A similar conclusion respecting the species of the disease may also be drawn where phthisical symptoms follow soon after wounds penetrating into the thorax, blows upon the chest, or similar accidents. In short, a considerable degree of local inflammation within the chest, from whatever cause it arises, may certainly terminate in an apostema.

But besides the ground for diagnosis, which is afforded by a knowledge of the exciting causes, marks of this species are also afforded from the symptoms with which it is attended. There is always reason to infer, that phthisis is of the Apostematous kind, where the patient has long been subjected to fixed pain in the breast; where he is affected with constant dyspnœa, even in an erect posture, and where that dyspnœa is attended with a sense of weight and and oppression at a particular part of the breast. This conclusion may particularly be drawn when the dyspnœa is much increased by a horizontal posture, and when the patient lying horizontally can breathe only with facility on that side to which the pain and sense of oppression are referred.

A distinction of this species from the two others is also afforded by the state of the cough. It is not the short tickling cough or tussicula which attends the tuberculous consumption. The fits of coughing are as violent as those which occur in catarrhal phthisis; but they are not, as in that species, attended with copious expectoration. For a considerable time, little or no expectoration occurs: Thus, the case is very different from what happens either in the tuberculous or catarrhal phthisis.

But, above all other circumstances, Apostematous Phthisis is characterized by those symptoms which immediately ensue on the rupture of the vomica. On that event a copious purulent discharge, under the form of expectoration, puts the nature of the case beyond all doubt. That the discharge then taking place consists almost entirely of pus is sufficiently demonstrated to the patient himself both by the smell and taste; and if the practitioner be present when the rupture takes place, he also can have no doubt with regard to the nature of the expectorated matter. Even at after periods, this species is distinctly characterized by the nature of the expectoration. Both by its smell, its specific gravity, and its chemical relations to acids and to alkalies, it will be found to consist principally of pus, with very little mixture of mucus.

The last species, or the *Tuberculous Consumption*, is the most difficult to distinguish at its commencement. It is what may justly be called a very insidious disease; and it has often made considerable progress before any important affection is supposed to exist. The cough at the commencement is hardly so considerable as to claim notice; while the extenuated habit and loss of strength with which it is attended are often ascribed to other causes. But there is always some presumption that these are the incipient state of the tuberculous phthisis, when they take place between the age of fifteen and twenty-five, and are found to continue for some time, notwithstanding the use of those practices which are in general successful in catarrh. There is still stronger ground for presuming incipient phthisis of the tuberculous kind, when these symptoms are attended with quickness of pulse, and when they occur with those who are known to be of a scrofulous family, and especially if other children of the same family have, at the same period of life, fallen victims to phthisis.

But even where there is not this mark of hereditary scrofula in the family, the symptoms mentioned above always give strong suspicion of tuberculous phthisis, when they occur with those who are of that fair complexion and delicate make which is very common with such as are of scrofulous constitutions.

There is also reason for suspecting tuberculous phthisis where the symptoms above mentioned have begun without any obvious existing cause, such as injuries to the breast; where the pain, when it does take place, is not fixed to any particular spot; when dyspnœa does not occur, or if occurring, is only distressing upon motion of the body, or any considerable exertion on the part of the patient.

But above all marks, the tuberculous phthisis is characterized by the peculiarity of the cough, which takes place both at its commencement and during its course. The cough which attends the tuberculous phthisis, is, as has already been said, of the short tickling kind, denominated a *tussicula*. For a long time it seems to proceed from some accidental irritation, and is attended either with no expectoration, or merely with the expectoration of a small quantity of mucus. Where a more copious expectoration does happen, it is neither viscid mucus nor purulent matter mixed with mucus. The matter expectorated is often clear and limpid, with a redish tinct; and is rather a bloody sanies than even ill-conditioned pus.

When bloody expectoration takes place at an early period, it can hardly be said to be under the form of hæmoptysis. The discharge of blood is never considerable at once, and it is very seldom pure blood, being in general intimately mixed with a considerable proportion of thin limpid mucus.

From due attention to those diagnostics which have now been pointed out, Pulmonary Consumption may be most readily distinguished from other diseases; and when it does occur, the three different species which have been pointed out may be most readily distinguished from each other.

CHAPTER VII.

OBSERVATIONS ON THE GENERAL PLAN OF CURE IN PULMONARY CONSUMPTION.

In the different modifications of Phthisis Pulmonalis, and particularly in the three different species which have been now described, the general plan of cure varies considerably. It is indeed true, that there are some general intentions which are to be had in view in every instance of phthisis. Thus, it must always be an object with the practitioner to counteract, as far as he is able, the effects of purulent absorption. It is in every case an object of importance to obviate those effects which purulent absorption produces on the system; or, in other words, to alleviate the urgent symptoms of the disease. These, however, are merely palliative indications, and a radical cure of the disease is to be obtained only by a removal of that source from which the purulent absorption arises. The means of effecting this removal must, in the different species, be accommodated to the nature of that particular source from whence the purulence is furnished.

In the Catarrhal Phthisis, the source of that purulent matter which produces the symptoms, is a mere inflamed surface, in some degree similar to what produces purulent matter in the case of a blister-issue. Here, therefore, the first object which is naturally to be aimed at in the cure, is to produce a change in that state of separation which takes place from the surface of the branches of the trachea, and of the membrane forming the air-vessels of the lungs. But it is also a second object of no less importance, to restore the natural condition and state of action of those superficial vessels from which this separation is afforded.

For obtaining the first of these ends, it is in most instances necessary to diminish that impetus with which the blood circulates through the system in general. But it is still more requisite to diminish that impetus with which it circulates through the vessels of the lungs in particular; for in catarrhal phthisis, the impetus of circulation in these vessels is very generally augmented. A diminution of this impetus may be obtained in different ways. But very generally this may be effected more readily by those means which give a determination of blood to other parts at some distance from the lungs, than by an action on the vessels of the lungs themselves.

The second leading indication in the cure of catarrhal phthisis, the restoration of a natural condition to the superficial vessels of the lungs, from which a separation of pus is afforded, may be brought about chiefly in two ways; first, by strengthening the tone of these vessels; and, secondly, by giving such a condition to the system in general, that the restoration of proper tone to these vessels may be brought about by the operations of the system itself. Hence, with the view of fulfilling this indication, much more is to be derived from regimen than from medicines, and particularly from gentle exercise, pure air, and a mild nutritious diet.

In the Apostematous Phthisis, the purulent matter, which gives rise to the wasting of the habit, loss of strength, and hectic fever, is separated at a particular part of the lungs, and is often, even when locally accumulated at that part in considerable quantity, so inclosed that it cannot be discharged; for the apostema is often formed by a thick cyst or bag containing the purulent matter. Thus, the purulent matter, although lodged in the substance of the lungs, even to the extent of many ounces, has no communication with any branch of the trachea. In other cases, however, even before the vomica can properly be said to be ruptured, some communication with the air vesicles, and passages for air, takes place. But whether there be any opening into these, giving an opportunity for purulent expectoration or not, it is still from this source, the apostema, that the aborption of matter giving rise to consumption is afforded.

In this species of phthisis, then, it must be evident, that a first and principal object is to discharge that purulent matter which is collected in the apostema. For accomplishing this, when the cyst remains entire, the first requisite is, that it should be ruptured; and for this purpose, measures may sometimes be advantageously employed by the physician; such, for example, as concussion of the system by the action of vomiting, of coughing, or the like. But very generally, the rupture of the apostema is trusted to the operations of nature; and in most instances, in no long time, particularly if the vomica be large, a spontaneous rupture will occur.

In every case, after an opportunity for discharge is afforded, whether by an intentional or spontaneous rupture of the apostema, that discharge is to be promoted ; and this can be done by encouraging frequent and free expectoration. Such expectoration, it is almost unnecessary to observe, is chiefly effected by coughing. And in the greater part of instances, sufficiently frequent and strong coughing is induced from that irritation which is given to the lungs and trachea by the purulent matter itself; but in some instances, for promoting free expectoration, other measures may be employed with advantage, such as the steam of water, of vinegar, of sulphuric ether, or similar vapours.

After a discharge of that purulent matter, which had been collected in the abscess has been obtained, it becomes a second object in apostematous consumption to prevent the farther separation of purulent matter from the ulcer which is thus formed. This, however, can only be accomplished in a manner similar to what happens when ulcers are formed in other parts. On the bursting or opening of an abscess, the diminution and final termination of the discharge is only to be brought about by the gradual healing of the ulcer. This healing of ulcers, however, in the lungs, as well as other parts of the body, may justly be considered as a process of nature, and is only to be accomplished by the operations of the system itself.

But there can be no doubt, that on some occasions, the efforts of nature in conducting the healing process, may be promoted and forwarded. This healing process requires that state of action of the vessels, which, in contradistinction to the suppurative, has been termed the *adhesive inflammation*. It becomes, therefore, an object of importance to induce this state of inflammation, as far as it can with safety be done. And with this view, by the judicious use, sometimes of tonics, sometimes of stimulants, sometimes of astringent medicines, much good may be obtained.

The third and last species of consumption to be spoken of, the Tuberculous, depends on what are termed *tubercles* formed in the lungs, and which are probably diseased and indurated glands attached to the lymphatic system. These, as well as scrofulous tumors in other parts of the body, depending also on the induration and enlargement of lymphatic glands, may often long remain in an indurated state. But such tumors in the lungs, as well as similar tumors elsewhere, may be considered as having constantly a tendency and even a progress to a state of suppuration. And suppuration at these tubercles may take place, not merely in the indurated body itself, which sometimes becomes as it were an inorganic substance, but in those parts by which it is immediately surrounded; the tubercle merely acting in exciting the suppurative inflammation, in the same manner as a lead-shot, or any similar foreign substance, introduced into the lungs would do.

It is in but very few cases of tuberculous phthisis that a single or solitary tubercle only exists in the lungs. In the greater number of instances, as is demonstrated by numerous dissections, many tubercles exist in the lungs at the same time, And when some have already terminated

minated in a state of suppuration, or have induced the separation of ill-conditioned purulent matter from the vessels immediately in contact with them, others remain only in the progress towards a state of suppuration. And from this circumstance many phenomena of the disease may be explained; particularly the recurrence of phthisical symptoms in a patient for several years together every spring, and their cessation during the summer. This may be considered as happening in a manner precisely similar to scrofulous suppurations, scrofulous ophthalmia, or the like, returning frequently during a series of years.

Wherever tubercles formed in the lungs can be removed without terminating in suppuration, or inducing suppuration in contiguous parts, this removal is unquestionably a matter of the utmost consequence. In tuberculous phthisis, it is an object of great importance, wherever it can be accomplished, to bring about a resolution or removal of the tubercles, while they remain in their indurated state.

But this resolution or removal may be accomplished with some of the tubercles, although not with all of them; and where many exist, it may reasonably be expected that some of them will terminate in suppuration. Where such a termination takes place, it is but very seldom that the ulcer thus formed, yields mild purulent matter. Like scrofulous ulcers in other parts of the body, those ulcers in the lungs which are the consequence of tubercles, often give out merely an ichorous sanies. In this species of phthisis, therefore, a second great object in the cure, is to alter the state of action of the vessels, either in the tubercle itself, or in the surrounding parts, so as to produce the separation of proper purulent matter.

With the separation of proper purulent matter, the adhesive inflammation, by which alone an ulcer can be healed, is intimately connected; and it is alone by the healing of the ulcer that the disease can be cured. If, however, this object can be accomplished by the aid of proper remedies, or even if the operations of nature in accomplishing it be aided, a recovery may take place even from this most alarming and dangerous species of consumption, the Tuberculous.

CHAP.

CHAPTER VIII.

OBSERVATIONS ON PARTICULAR PRACTICES EMPLOYED IN PHTHISIS PULMONALIS, AND WHICH HAVE BEEN RECOMMENDED BY EMINENT WRITERS.

FROM the view which has been given of the general principles on which the cure of pulmonary consumption is to be conducted, it must evidently appear, that, for answering the general indications pointed out, may different remedies may be employed; and there is perhaps no affection in which a greater variety of practices have been recommended.

While some of these practices are applicable to one species and one condition of the disease only, others are in some degree applicable perhaps to all the three species which have been pointed out, and may even be advantageously employed to fulfil different intentions in each. But although it has of late been alleged by an eminent writer, that the Digitalis purpurea is as certain a remedy for Phthisis, as the Cinchona is for Intermittent Fever, yet every candid practitioner will readily allow, that hitherto no panacea for pulmonary consumption is discovered.

In particular instances, however, certain remedies may not only tend to alleviate the distress of the patient, but may at least assist in the accomplishment of a complete recovery. This will more fully appear from a few observations on the principal practices which have in this disease been recommended by the most eminent practitioners.

This subject might easily be extended to a great length, when it is considered how many different practices have been recommended in phthisis, and how much has been said with regard to each. From what I have seen in actual practice, I might say much, both in confirmation and in refutation of the sentiments of others respecting particular remedies. But my object is to deliver, not the detail, but the result of my own observations; and I shall therefore confine myself to a few remarks on what I consider as the most important modes of cure, either from their beneficial or prejudicial effects.

At the head of the practices which have been recommended in pulmonary consumption, Bloodletting may justly be mentioned. There are several indications in phthisis, which it is well fitted to fulfil, especially as diminishing the impetus of blood through the system in general, and through the lungs in particular. In this way, large and repeated bloodlettings may effectually prevent hæmoptysis, or inflammation from any cause, from terminating in a state of suppuration. Repeated small bleedings in phthisis have also been strongly recommended, for counteracting successive inflammations resulting from tubercles.

The use of repeated bloodlettings in phthisis, seems first to have been introduced by that singular practitioner Dr DOVER, to whom it must be acknowledged that medicine is indebted for several important practices; particularly for the introduction of his sweating powder, long known in the shops under the name of *Dover's Powder*, and still much employed under the appellation of the *Pulvis ipecacuanhæ compositus.* Dr DOVER considered phthisis as entirely an inflammatory disease: And he directed bloodletting to a small extent at first every day, for twelve or fourteen days successively; and afterwards every second or third day for a considerable length of time. In this way, even by small bloodlettings, very considerable quantities were abstracted; and there are cases on record, in which, before the disease proved fatal, bloodletting had been performed upwards of fifty times. There can, however, be no doubt that this was a great abuse of a very useful remedy. The treatment was found to be by no means a successful one; and although these bloodlettings might afford temporary relief, yet the probability is, that they shortened the life of the patient.

On the grounds, indeed, which have already been stated, bloodletting may in some instances prevent the occurrence of the disease, and in others overcome it in its incipient state; but it is to be remarked, that no practice tends more to reduce the strength of the body than bloodletting. Loss of strength, however, occurs at a very early period of phthisis, and is one of the first alarming symptoms. The pulse in this disease is often quick, when it is neither full nor hard, and the quickness depends much more on increased irritability, than on increased tone of the vascular system. Hence, it is often observed, that bloodletting, in place of diminishing, increases the quickness of the pulse in phthisis; and in every case, it occasions an additional loss of strength. There can be no doubt, therefore, that it must often be prejudicial. That it has been so, I am fully convinced from what I have frequently seen in practice; and I have no doubt in asserting, that, in hundreds of instances, starvation and bloodletting have hastened the death of phthisical patients. With regard to its use in this disease, it may justly be observed, in the words of an elegant writer, *Nocet per se, prodest casu.*

As bloodletting has often been employed in phthisis, so recourse has frequently been had to Blisters. Epispastics have in this disease been used in different forms, particularly under the form of proper blisters, and of blister-issues, or setons. It may also be observed, that in some instances they may be employed with advantage in all the three different species of phthisis. In every species of the disease, blisters are often a means of relieving the cough: for even when they have no tendency to remove the stimulating cause producing cough, as when it arises from a tubercle, yet they diminish the effect of the stimulus. In most instances, also, they diminish increased sensibility in the neighbourhood of those parts to which they are applied. This is particularly the consequence of their application to the neighbourhood of inflamed parts; for by exciting a new morbid action, that which previously took place at the inflamed part is sometimes suspended, often diminished. Thus, they are useful rather from the impression which they make on certain subcutaneous nerves, and the consequent inflammation which they induce, than from their evacuant power.

But even as evacuants, they are of some service in phthisis, as producing a discharge from the general system, and perhaps still more as changing the distribution of the fluids, and the balance of circulation. While, however, with the intention of evacuating, the greatest effect is to be expected from proper blisters; with the view of changing determination, more benefit may be derived from blister-issues, or from setons.

Blisters, and still more blister-issues, are particularly useful in the catarrhal phthisis: for in that modification of the disease, derivation from the lungs is of the utmost consequence. By this means, a change may often be effected in that state of suppuration which takes place from the internal membrane of the lungs, and the purulent discharge be converted into the natural mucus. On the same principles they are useful in catarrh. Hence, they may be considered as particularly adapted to that period of the disease, when a catarrhal has a disposition to degenerate into a phthisical affection: and for my own part, I am acquainted with no remedy from which I have seen so much benefit, in the incipient state of catarrhal phthisis, as from blister-issues on the breast.

In the apostematous phthisis, blisters and blister-issues are also of considerable service, particularly while the vomica remains entire. For there is reason to presume, that this evacuation both tends to remove matter from the vomica, by increasing absorption, and that it affords an outlet for the matter thus absorbed, from the circulating mass. But after a rupture of the apostema has taken place, and after an opportunity is thus afforded for a free discharge of the purulent matter by expectoration, less benefit is to be expected from issues; and as every evacuation has a tendency to increase debility, issues are in some degree exceptionable.

Perhaps on the same ground they are still more exceptionable in the tuberculous phthisis. In that modification of the disease, I have never in my own practice observed any decided advantage resulting from the employment of them; and in some instances, besides evacuating, they are productive of great inconvenience, as exciting irritation and pain. Circumstances, however, not unfrequently occur, indicating their use even in the tuberculous phthisis; particularly if that species be attended with considerable expectoration of mucus, wich is at least sometimes the case. Even in tuberculous phthisis, therefore, the use of issues is by no means forbid. But upon the whole, they are less beneficial in that species of consumption than in the other two, particularly in the catarrhal, in which they are often highly useful.

Among other remedies in phthisis pulmonalis, some have very strongly recommended the use of Emetics. These, in certain circumstances, are applicable also to all the three species of pulmonary consumption; and perhaps they may be useful on a greater variety of grounds than either of the practices already mentioned. In the catarrhal phthisis, the induction of full vomiting is often highly useful as an expectorant: for in that disease, as well as in chronic catarrh, both the cough and dyspnœa arise from viscid matter accumulated in the branches of the aspera arteria; and, next to coughing, nothing so immediately produces a discharge of that matter as the action of vomiting. But besides operating as an expectorant, the action of an emetic is also useful in catarrhal phthisis, from the general agitation which it occasions. By this there can be no doubt that a very great temporary change is induced in the mode of circulation. By the action of vomiting, the blood is propelled to the extreme vessels in every part of the body, particularly to the extreme vessels on the surface. Thus, there is produced a derivation from the lungs, and a consequent change in the state of separation at that part of the system;

tem; and superficial vessels which before secreted a purulent matter, may thus come to yield a more natural secretion. In this way, they may tend to produce a radical cure. But as far as I can judge from my own experience, they are chiefly useful in catarrhal phthisis, as obviating symptoms, particularly cough and dyspnœa, by promoting expectoration.

If, with the intention of promoting expectoration, emetics are often productive of good effects in the catarrhal, on the same ground they are still more useful in the apostematous phthisis. Where, indeed, we have reason to conclude that there is a large vomica in the lungs, but that it still remains entire, and while our wish is that it should not be burst, emetics must carefully be avoided. But where, without a rupture of the vomica, a cure cannot be expected, we possess no practice by which a rupture can be more readily obtained, than by the action of vomiting; and after a rupture of the apostema has taken place, whether spontaneously or by artificial means, emetics may be of great service, as promoting the evacuation. Thus, in apostematous phthisis, they may be advantageously employed with different intentions.

The intentions now pointed out are seldom to be answered in the tuberculous consumption. For there, the promoting expectoration will rarely alleviate either cough or dyspnœa. But in tuberculous phthisis, emetics have been perhaps more extolled than in either of the other species; and if they have really the effect which some eminent practitioners have alleged, much may be expected from them. It has been contended, that by emetics a resolution of tubercles in the lungs may be brought about; and in the most dangerous species of the disease even a radical cure will be effected, if the tubercles can be removed. These tubercles are probably tumors of the scrofulous kind; and of late, among other proposals for discussing scrofulous and other glandular tumors, Emetics have been recommended. They have particularly been advised for removal of a swelled testicle. When, indeed, the testis is in a state of acute inflammation, emetics are not to be recommended. But when swelling and hardness remain after the active inflammation is gone, they have been extolled by some practitioners as more useful in removing that swelling than any other remedy. On this ground, it has been inferred, that they may be advantageously employed against other glandular tumours, even those of the scrofulous kind. Accordingly, the frequent use of emetics, repeated twice, or even thrice, in the course of a week, for some length of time, has been strongly advised; and cases have been published, in which this practice is said to have effected a radical cure in tuberculous phthisis. I must acknowledge, that I cannot say very much in favour of this practice from my own experience. And I have never yet met with any instance of tuberculous phthisis, in which I had reason to believe that emetics produced a radical cure. I, however, by no means consider them as being so dangerous a remedy as the repeated small bleedings. I have never seen any bad effect from the prudent use of them: And in most instances of tuberculous phthisis, I have found them, in the early stages of the disease, productive of some temporary relief, probably as giving temporary determination to the surface of the body.

Those practitioners who have recommended emetics have differed somewhat with regard to the particular emetic which ought to be employed. Some have advised the use of ipecacuanha. And certainly where full vomiting is required to a moderate degree, there is no article on which greater dependence can be put. But Dr Marryatt and others give the preference to what he has termed the *dry vomit*, that is, an emetic operating without the introduction of any great quantity of fluid. This dry vomit is composed of sulphate of copper and tartrite of antimony; and it has the effect of exciting vomiting immediately upon being swallowed. My excellent friend, the late Dr Simmons, in his Essay on Consumption, mentions, that in two cases, he had experienced benefit from this emetic, after vomits of ipecacuanha had been given ineffectually. Where very frequent repetition is to be tried, this dry vomit is perhaps to be preferred. But I must confess I have no expectation, that by the use of any emetics, a removal of tubercles from the lungs will be often obtained. And where the chief intention in the use of emetics is to promote expectoration, the ipecacuanha is perhaps the best that can be employed.

A considerable variety of medicines of the Refrigerant kind, have been strongly recommended by different practitioners for combating phthisis in its incipient state. Refrigerants, which, while they tend to produce a sense of coolness, at the same time diminish the impetus of circulation, may seem well suited to a disease which by some has been supposed to be always of an inflammatory nature; and although they do not immediately remove a plethoric state, yet they perhaps tend to diminish the inflammatory diathesis even more effectually than the repeated bloodlettings. Hence, it is not wonderful that recourse should have been had to these, and that in certain circumstances they should even have been productive of material advantage. Accordingly, at different periods, different articles of the refrigerant kind have been highly fashionable. Different acids, and different neutral salts, have by some practitioners been strongly recommended in phthisis.

Among the former, recent vegetable acids, such as that obtained from lemons, oranges, or other acescent fruits, were at one time highly extolled. Lemons, in particular, taken to a very great extent, were, on the authority of a late eminent London practitioner, extolled as an almost infallible remedy in phthisis. I have been told, his own observation on this subject was, that, although the lemon juice often did not succeed with others, yet with him it seldom failed. There is, however, too much reason to believe, that even under the very best management, lemon juice will very rarely, if ever, succeed in curing any species of phthisis, where the disease is certainly characterized ; and there is a high probability, that many of those cases in which it was said to produce a cure, though supposed to be phthisis, were merely catarrh.

Judging from what I have myself observed in practice, I have no doubt in asserting, that the powers of lemon juice, and of other articles abounding with vegetable acid, in combating phthisis, have been by some practitioners greatly overrated; nay, that the indiscriminate use of vegetable acid, as well as of repeated blood-letting, in phthisis, has been attended with very serious evils.

I must, however, also observe, that from recent vegetable acids, and particularly from the acid of lemons or oranges, I have often experienced good effects in particular cases of phthisis. These acids can be taken without inconvenience to a much greater extent than either the acetous or the mineral acids. And wherever refrigerants are indicated in phthisis, the recent vegetable acids are perhaps the best. There are certain circumstances in which they may be proper in all the three species of phthisis. But they will no more cure tuberculous phthisis than they will cure scrofula, when affecting the submaxillary or other subcutaneous lymphatic glands; and there is as little reason to hope, that a large abscess in the lungs can be combated by the use of them.

They may perhaps sometimes prevent the inflammation which occurs in tubercles, from passing into a state of suppuration; or they may be useful in combating inflammation from injuries to the breast, where that inflammation would otherwise terminate in an apostema. They may also be useful where frequent returns of hæmoptysis threaten a termination in phthisis. But after an abscess has occurred, they are of little service. And, as far as my observation goes, they are chiefly beneficial in those cases where there is reason to dread that catarrh will degenerate into phthisis.

Besides different acids, various other articles have been frequently used in phthisis, the good effects of which are probably to be ascribed to their power as refrigerants. Recourse has particularly been had to the nitrate of potass, and to the supertartrate of potass, both of which, but particularly the former, have very great influence in exciting a sense of coldness from their action on the stomach, and are certainly justly entitled to the appellation of Refrigerants. The former has been much employed in cases of hæmoptysis, and the latter is often useful, both as a refrigerant and gentle laxative, in those cases, where, with symptoms threatening phthisis, there takes place a bound state of the belly. But they seem to me to be inferior in efficacy to the recent vegetable acids; and unless where these disagree with the stomach, neither nitre nor cream of tartar will probably be much employed merely as refrigerants.

When these neutrals are employed with consumptive patients, they are used rather with the view of correcting some other article, than with any expectation of deriving benefit from the neutrals themselves. Thus, it has been strongly recommended to conjoin nitre with the gum myrrh, an article afterwards to be spoken of. And it is not improbable, that both this and the cream of tartar might be advantageously

ously added to some other of the Heating Balsams, as they have been called; and that by this combination, while good effects are obtained from these balsams, certain bad effects which some have attributed to them might be counteracted. Thus, in different conditions of the disease various refrigerants may be employed with advantage.

Of all the remedies which have of late been fashionable in phthisis, none, perhaps, has been so highly extolled as the Digitalis Purpurea. One practitioner, as has already been remarked, represents it as being as efficacious in the cure of phthisis, as the Peruvian bark is in cases of intermittent fever. But extensive experience has already clearly demonstrated to many different practitioners that this is a mere chimera. The foxglove has unquestionably a wonderful influence on the state of the pulse. Under proper management, it produces a slowness of the pulse not perhaps to be obtained from any other medicine yet discovered. In phthisis, however, the pulse is often quickened to a remarkable degree. And it has been the opinion of some, that by reducing it to the natural standard, from the use of digitalis, Consumption may be overcome. But it is almost unnecessary to observe, that the quickness of pulse in phthisis is merely symptomatic, and that the reduction of it even below the natural standard, can have no effect either in removing a tubercle, or in curing an ulcer in the lungs. Hence, on this ground, it is vain to expect a radical cure from its use. That in certain cases, however, it may be employed with advantage, I am very far from denying.

Besides in general diminishing the celerity of the pulse, the foxglove, in most instances, also operates as a very powerful diuretic. It is, however, well known, that a free discharge of urine has often great influence in relieving the breast. In this way it may be highly useful in catarrhal phthisis; and a diminution of the celerity of the pulse may certainly somewhat alleviate the hectic fever. But I am sorry to say, that for my own part, I have not witnessed any great benefit from digitalis in any case of phthisis; and I have seldom been able, by means of digitalis, so far to diminish the celerity of pulse in phthisis, as to bring it even to the natural standard. It would seem, that in this disease, such is the influence of the causes quickening circulation, that even the power of the digitalis is not able to counteract them.

While Milk, in various forms, as an article of diet, respecting which some observations shall afterwards be offered, has been very generally recommended to phthisical patients, some particular kinds of milk have been viewed even as effectual remedies in that disease. With this intention, women's milk, mare's milk, but particularly ass's milk, have been by some highly extolled. Some kinds of milk may certainly agree better with particular stomachs than others. But there can be no doubt, that none of them operate upon any other principle than as a mild and nutritious article of aliment; and therefore, that no benefit is to be expected from a small quantity. From ass-milk, which has often been directed to the extent only of a gill in a day, no benefit is to be expected, unless it be taken to the quantity of at least half a pint twice a-day. When thus used, I have often found it beneficial to patients highly debilitated; and I am much deceived, if it has not in some instances contributed to the removal of tuberculous consumption in its incipient state; only, however, from aiding the operations of nature, by strengthening the patient. But, such is its influence in this way, that, in the incipient state of every instance of tuberculous phthisis, it should be recommended. Where the stomach of the patient can easily digest it, the same advantages may be derived from cow milk, and that, too, in its richest state, under the form of what have been called *the afterings*, that is, the last portion of milk drawn from the udder of the cow at any one period of milking. These *afterings*, as has been found by accurate observation, certainly contain a much greater proportion of butyraceous matter than is to be found in the first drawn milk, and this last drawn portion of the milk is unquestionably the most nutritious.

tritious. But often cow-milk, even of the ordinary richness, cannot be digested. In that case, however, it may still be successfully employed in a diluted state; and diluted cow-milk, with the addition of a small proportion of sugar, will make a very good substitute for ass-milk, where that article cannot easily be obtained.

The whey of Goat-milk is another article in which many practitioners put great confidence. From goat-whey, as well as from ass-milk, I think I have often seen very great advantage, particularly in the incipient state of tuberculous phthisis. I have known more than one instance, where a patient of a scrofulous family had for several successive springs alarming phthisical symptoms, which were entirely removed in the course of the summer, by leaving Edinburgh, and drinking goat-whey in the Highlands. This could not be attributed to any nourishment derived from the most watery part of the milk, deprived both of the oleaginous and coagulable matter. But it has been supposed by some, that goat-whey may acquire particular virtues from an impregnation given to the milk by those herbs on which the goat feeds in her native hills. For this, however, there is just as little foundation as for the supposed medical virtues of ass-milk. I have, for my own part, no doubt in attributing the whole benefit of goat-whey, to pure air, gentle exercise, and the change of temperature of the season during which recourse is usually had to it. In proof of this, I have often observed the same benefit by removal from a town residence to comfortable country quarters, where no goat-whey was to be had. A change of situation to pure air and a temperate atmosphere, will often be found of material advantage. And it is with these intentions alone that I ever think of recommending goat-whey quarters. But from removal to these during the summer season, I have often seen great benefit in the incipient state of tuberculous phthisis.

For patients in the incipient state of a pulmonary consumption, Sea Voyages have often been highly extolled. These have been recommended in every species of the disease; and on different grounds they have been supposed productive of advantage. By some, they have even been supposed useful as exciting sea-sickness. But more generally, the benefit observed from them, has been attributed to two other circumstances: to the pure air which the patient must necessarily breathe when at sea; and to the constant state of motion to which the body is subjected when on shipboard. Some have even thought, that particular benefit may be derived from breathing sea-air, which is well known to be often impregnated with sea-salt. That on all these grounds, some benefit may be derived from it, I would be far from denying; and I have known some instances of patients who were suspected to labour under tuberculous phthisis, for whom, on the very first alarm of the disease, a long sea-voyage had been recommended, and who have returned free from every complaint. But in the catarrhal and apostematous phthisis, nothing is to be expected, either from the air or exercise which a sea-voyage affords, nor from the inspiration of a saline atmosphere.

mosphere. And even in the tuberculous phthisis, after the disease is so far advanced as to be distinctly marked, I have never, for my own part, known any benefit from a sea-voyage; while, on the other hand, phthisical patients in a very debilitated state, at sea in stormy weather, are subjected to so many and so great inconveniencies, that I have often known those who have attended such patients, deeply regret that the practice had been tried.

Unless, therefore, where sea-voyages are necessary for transporting a patient from Britain to another climate, they are, in my opinion, very rarely advisable. But few remedies have been more generally recommended by eminent practitioners for combating phthisis, than a change from Britain to a more steady and more temperate climate. A voyage to Lisbon, to Montpellier, to Messina, and other places in the south of Europe, and a residence there for some length of time, have been strongly recommended. Since these situations, from the wars in Europe, have become less safe, Madeira, the

Canary Islands, the Azores, and Bermuda, have been advised, with a similar intention. And there can be no doubt, that in these climates, exercise in the open air may be employed much more regularly, and with much less risk, than in the variable and cold climate of Britain. Yet a change to any climate, has very little, or rather no influence, as tending to a radical cure of the disease; and the greater part of those patients who have had recourse to this practice, after phthisis has been distinctly marked, have only gone to breathe their last in a foreign climate.

The different modes of cure which have now been mentioned, are perhaps the principal practices which have been recommended by the most eminent practitioners in the earlier periods of phthisis. And where phthisis can be combated by medical aid, it is chiefly to be done in the incipient state. But even from the advanced stages of the disease, natural recoveries have sometimes taken place. Hence, then, though artificial means of cure, or remedies, strictly so called, are frequently unsuccessful, yet there are many cases where a practitioner, who has had no opportunity of seeing the patient till the disease has arrived at what may be called a confirmed state, may recommend them with some prospect of benefit.

Among the articles employed in advanced periods of phthisis, there are perhaps few with regard to which greater controversies have subsisted than the Cinchona, or Peruvian Bark, as it has been commonly called.

There are several circumstances in phthisis, from which cinchona would seem naturally to be indicated. On the other hand, there are circumstances from which it might be concluded to be adverse to the nature of the disease. This controversy cannot perhaps be yet decided from any facts that have been published respecting the employment of cinchona in phthisis. For if it be said that there are cases recorded in which it has been used with advantage, it may on the contrary be observed, that there are others in which it has manifestly been productive of bad effects.

Cinchona might, *à priori*, be concluded to be useful in phthisis, both as a means of healing ulceration of the lungs, and as counteracting those effects which arise from the absorption of purulent matter. It is well known, that in cases where ulceration takes place on different parts of the surface of the body, the discharge of purulent matter is often altered and meliorated under the use of Peruvian bark. It has also been ascertained, by many accurate experiments, that few articles of the materia medica possess a greater antiseptic power; and in many cases, cinchona has been found efficacious in checking hectic fever arising from ulcers in different parts of the body. On these grounds, then, there is at least analogy for supposing that it may be useful in phthisis.

On the other hand, however, it is well known that the Peruvian bark has very generally a tendency to check expectoration; and in many instances,

stances, the principal chance of cure in phthisis depends on free expectoration. But besides this, cinchona has also a tendency to produce in the human body an increased action of the vascular system, and a disposition to inflammation; and hence it may tend to support rather the suppurative inflammation, than the adhesive process. On these grounds, then, there is reason to fear, that the good effects which may be expected from it, may be even more than counterbalanced; and certainly its use in phthisis has, from experience, been much condemned by many eminent practitioners.

Those, however, who indiscriminately condemn the use of cinchona in every instance of phthisis, have gone too far. It must indeed be allowed, that it has by no means the same powerful effect in checking hectic fever, as in stopping the paroxysms of intermittents, to which the hectic paroxysms have in many respects a resemblance. In certain cases of phthisis, it may do mischief. But this may in a great measure be avoided by prudent management; and I have directed it in several instances, in which, if I have not been much deceived, it has been productive of good effects.

In the tuberculous phthisis, it can hardly, indeed, be expected that the Peruvian bark will cure those ill-conditioned ulcers which take place in the lungs: For it is well known, that scrofulous sores on other parts of the body are not healed by the use of it. And although in tuberculous phthisis, little is to be dreaded, from its influence as checking expectoration, yet more is to be apprehended from it than in any other species of phthisis; for there is reason to fear, that it may encourage the inflammation of different tubercles in succession, and thus lead to more numerous suppurations.

In the Catarrhal Phthisis, from its influence in checking expectoration, it may be thought to be seldom admissible. For in that species of the disease, free expectoration is particularly necessary. And if the cinchona be imprudently thrown in, to a great extent, it is not wonderful that dyspnœa should be induced or augmented. But whether an increase of dyspnœa will be the effect of its use or not, can be determined only by a prudent trial. When dyspnœa is not induced or aggravated by its employment, the best effects are often observed to arise from it. It is sometimes beneficial, not merely as restraining colliquative sweats and other excessive discharges, which very much weaken the patient; but it has even some tendency to a radical cure of the disease. In this way, it has in some cases very considerable influence, both from altering that state of secretion which in catarrhal phthisis takes place from the internal surface of the lungs, and also from restoring to the secreting vessels that condition and that tone on which the natural secretion in a state of health depends.

If cinchona be sometimes admissible and useful in the catarrhal phthisis, it is no less so in the apostematous. It is never, perhaps, adviseable soon after the rupture of a large vomica has taken place; for at that period, the only chance of recovery depends on free expectoration. But when the discharge from the lungs, after a copious evacuation of well digested pus has taken place, degenerates into a more ichorous fluid, cinchona may be of great service. Under its use, the appearance of the matter expectorated is, in some cases at least, soon much changed for the better. And I have had reason to think, that from its influence, the adhesive inflammation has been induced, and an ulcer in the lungs has thus been healed, where that event would not otherwise have taken place. To this species of consumption, then, it is, perhaps, better fitted than to any other; and from what I have seen in practice, I have no doubt, that in those cases in which it is admissible, it will be of great service.

In cases of phthisis, cinchona may be exhibited in various forms. The choice will in some degree be regulated by the state of the patient's stomach. But under whatever form it be given, it is very generally proper that its use should be begun in small doses; for by this means, the practitioner will best be able to judge with certainty whether its good or bad effects will preponderate. In phthisis, those objects which the practitioner would wish to accomplish by means of the cinchona, are in general to be obtained, not from its action on the stomach, but from its introduction into the system; and therefore they may be more readily obtained when its active principles are previously extracted by a proper menstruum, than when they must be extracted from the woody part in the stomach itself. One of the best and safest forms under which the cinchona can be employed in phthisis, is, perhaps, the simple watery infusion; and under this form, where cinchona is to be tried, its use ought always to be begun. If the watery infusion be found to be attended with advantage, the practitioner may with greater freedom venture to employ it in a more concentrated state; and recourse may be had with advantage, either to the extract or to the powder of the bark; yet, upon the whole, it will, perhaps, be exhibited with greatest safety and most advantage when acted upon by a watery menstruum, either under the form of infusion or decoction.

If practitioners have differed in opinion with regard to the effects of cinchona in phthisis, differences no less considerable have taken place with regard to another set of medicines, the *vegetable balsams*, as they have been called. These have derived the name of Balsams from a supposed power of promoting the healing of wounds and ulcers. At one time, many of them were highly extolled in pulmonary consumptions. The Balsamum Giliadense, Canadense, Copaiva, and several others, have each had their day of fashion, and have each fallen into deserved neglect. Many arguments have been brought to prove, that the balsams and gummi-resinous substances which have by some been recommended in phthisis, as they possess a heating and stimulating power, must be prejudicial in that disease. They have particularly been condemned by the late eminent Dr FOTHERGILL, in a paper in the London Medical Observations, in which he brings many arguments to shew, that the use of them in phthisis has been adopted on mistaken principles, and followed without due consideration; and he concludes from his own observations in practice, that they are prejudicial. His opinion respecting them, has of late been very generally adopted.

That in many cases they may have done harm, I do not deny; but those who condemn the use of them indiscriminately, seem to me to carry the matter too far. In particular cases of consumption, I am disposed to think favourably of some of them, and particularly of that gummi-resinous substance, Myrrh,—an article, with regard to the botanical history of which we are still much in the dark. Since Dr Fothergill's publication, this article has been highly extolled in phthisis, by several accurate observers, particularly by Dr Simmons, in his valuable Treatise on Consumption. He considers it as counteracting the effects of absorbed ichorous pus, from its antiseptic powers; and that it does possess these is universally allowed. Hence, whatever bad effects it may have in other respects, it may thus be of use ; and the inconveniencies dreaded from its immediate action on the stomach, as heating, may in some degree be obviated by giving it combined with a refrigerant, Nitre or Crystals of Tartar. Accordingly, the Gum-myrrh has been directed to be taken to the extent of twenty or thirty grains thrice a-day, united with an equal quantity of either of these articles. And the testimony of Dr. SIMMONS's, in support of its efficacy has been confirmed by numerous observations of Drs GRIFFITHS, FORDYCE, SAUNDERS and others.

To their experience I can also add the result of extensive observation in my own practice. For, although I can by no means represent it as having often produced a cure, yet in some instances I think I have seen the best effects from it. I have used gum-myrrh frequently in all the three species of pulmonary consumption; but not in all of them with equal advantage. In the Catarrhal Phthisis, less benefit is to be derived from it than in the other two species. In the Tuberculous I have sometimes thought it was of service; but of all the modifications of the disease, I have found it most useful in the Apostematous In more than one instance, if I have not been much deceived, it has contributed very considerably to bring about a complete recovery. In such cases, therefore, I consider it as well entitled to a fair trial.

In treating of balsams in phthisis, it may not, perhaps, be improper to mention another article, which, although a quack medicine, has of late been highly extolled by some regular practitioners, viz. that which has been sold under the name of *Godbold's Balsam.* The use of this article in phthisis I have had many opportunities of observing. Of its composition I know nothing: For, although the receipt sworn to and recorded in Chancery, by the patentee, has been repeatedly published, yet no medical man, in the least acquainted with the Materia Medica, will for a moment suppose, that it is prepared according to that specification. An ingenious chemist in Edinburgh, has, indeed, bestowed a great deal of pains in analyzing Godbold's Balsam, and sells, at a much lower price, a balsam which he considers to be very nearly, if not precisely the same with that of Godbold; and, as far as I have been able to observe, the effects of both are nearly the same. Of both these articles I am inclined to think favourably; but I can by no means say much for either. I have met with no instance, in which, by either, a cure of phthisis has been obtained; nor do I believe that either of them will cure phthisis in any case. I have indeed met with different cases, where catarrh, with alarming appearances, has been entirely removed during their use; and from such cases being mistaken for phthisis, they probably derive their present high reputation.

Among other active medicines, recourse has been had in phthisis, to Mercury, to Sarsaparilla, and to Mezereon; but I have never witnessed benefit from any of them, and if they ever do any good, I am inclined to think, it will only be in those cases where phthisis has been excited by a preceding venereal affection.

I can also, from my own experience, say very little in favour either of the Tussilago Farfara, or the Lichen Islandicus. Any good effect which has ever been observed from these, I am inclined to attribute entirely to the vegetable mucilage which they contain, tending to allay cough, by operating as a demulcent. Of the Cicuta or Hemlock, the Conium maculatum of LINNÆUS, I am inclined to think more favourably. With patients of a scrofulous habit, subjected to symptoms threatening tuberculous phthisis, I have sometimes imagined that the conium, in conjunction with cinchona, has had a good effect in preventing the occurrence of phthisis.

Sea-water, and Mineral Waters, particularly those of the sulphureous kind, and the Bristol Waters, have by some been strongly recommended, even in the confirmed stages of Tuberculous phthisis, from its affinity to scrofula. In the prevention of this species, they may perhaps do some good. But after it is distinctly marked, although in some respects they may seem to be indicated, yet in others their operation is unfavourable, particularly if taken to such an extent as to produce a purgative effect. Accordingly, they are now very little if at all employed after phthisis can with certainty be affirmed to exist.

While, for resolving tubercles or healing ulcerations in the lungs, many medicines have been taken internally, some modes of cure have been recommended, with the view of acting topically on the diseased parts. In this way, different articles have been directed to be inhaled into the lungs, under the form of vapour. From applications in this way, very high expectations have been held out by some eminent practitioners, particularly the late Dr Beddoes; and indeed, it was entirely with the view of determining their efficacy, that he established what he styled the *Pneumatic Institution* at

Clifton. The inhalation of a larger proportion of Carbonic Acid Gas than what is contained in common atmospheric air, has particularly been advised; and although it be well known that the inspiration of it in a concentrated state, proves suddenly fatal even to the human species, yet when it is diffused in the atmospheric air inspired, it may be taken with impunity, and it has been directed in phthisis, with a view to its antiseptic power. But even if it were to operate as a very powerful antiseptic at the ulcerated parts, yet it is much to be doubted how far it would have any influence as curing phthisis. It might indeed perhaps in some degree correct that putrid matter already separated from the ulcers in the lungs; and thus might mitigate for a little the violence of the affection, even of the hectic fever. But I am inclined to think, that nothing is to be expected from it, either as giving ulcers in the lungs a tendency to heal, or in the removal of tubercles.

Of this practice, however, I can say nothing from experience; and I have heard nothing from others tending to confirm its success. I have not even been informed of a single reputed cure of phthisis at the Pneumatic Institution.

A similar remark may perhaps be made respecting the inefficacy of Resinous effluvia introduced into the lungs, when obtained by burning Tar, Rosin, or similar substances. These vapours also have been recommended, and I have known them tried in some instances; but I never could observe any good effect from them. On the contrary, by exciting cough, I have often seen them productive of very great inconvenience. That in some instances, they may have had the effect of inducing the adhesive inflammation, in cases of apostematous phthisis, I would not deny; and hence I would by no means represent them as altogether improper. But I am inclined to think, that they will seldom be attended with much advantage, and often with great inconvenience.

Among other vapours taken in by inspiration, that which is exhaled from a Cow-house has been strongly recommended by some practitioners. To obtain this, it has been enjoined to phthisical patients to live in the midst of cows; to be in that company not only during the day, but during the night also, the patient having with that intention a proper bed placed in a cow-house. This mode of cure has been highly extolled by one practitioner, who has published the case of a French lady of quality, in which it is said to have been attended with a most wonderful effect. But I have never seen this practice tried, and I must own I have no confidence in it.

If the inhalation of any vapour, which has hitherto been recommended, shall be found advantageous in phthisis, I should be inclined to think, that benefit might be expected from the vapour of Sulphuric Ether. This has been highly extolled by one practitioner of eminence, Dr Richard Pearson of London. In a paper of his, published in the Edinburgh Annals of Medicine 1796, a particular account is given of this practice; and he observes, that he has found the salutary operation of ether applied to the lungs, under the form of vapour, to be greatly promoted by several volatile substances that are soluble in it; but by none more than the cicuta. By macerating a sufficient quantity of the dried leaves of the hemlock in sulphuric ether, for the space of three or four days, or at most a week, and by occasionally shaking them together, a very saturated tincture is obtained. The proportion which Dr PEARSON has in general used, was about half a drachm of the powdered leaves of the cicuta to an ounce of the ether. One or two tea spoonfuls, either of pure ether, or of this impregnated fluid, is put into a tea cup or wine glass, and held up to the mouth. The patient is directed to draw in the vapour which arises from it with the breath, continuing it till the whole tea spoonful or two of ether be evaporated. This process he directs to be repeated three, four, or even five times in the course of a day, for a month or six weeks, according to circumstances. From this he affirms that the best effects will often be obtained. He does not indeed recommend it in every modification of phthisis; but he considers it as best suited to the florid, or what is commonly termed the *Scrofulous Consumption.*

Since I first read Dr PEARSON's publication on this subject, I have repeatedly directed to patients the inhalation, both of pure ether, and of ether impregnated with cicuta; and in different cases, it has appeared to me to be productive of considerable benefit. It has often had very great influence in relieving both the dyspnœa and cough. But I have found it particularly useful as promoting expectoration, in those cases where viscid mucus, mixed with a large proportion of purulent matter, could not be discharged from the lungs without very distressing cough. I have never, indeed, found the employment of it followed by a cure, either in the catarrhal, or any other species of phthisis; yet, from what I have seen, I am convinced, that, in different conditions of phthisis, it may be employed with advantage.

Another practice recommended in phthisis, the efficacy of which has been supposed to depend on certain vapours, is the Bano de Tiera, or *Earth Baths,* as they have commonly been called, where the patient is confined for some time in a pit newly dug in the earth. This practice has, among other writers, been recommended by Dr SIMMONS; and he endeavours to account for its efficacy, from the antiseptic powers of the exhalations from the earth, which will thus have an opportunity of being absorbed. This practice I have never directed for any patient; nor have I ever witnessed the employment of it. But about thirty years ago it was tried in a few cases at Edinburgh, and, according to the information which I have received, in all these it was attended with a bad effect, always aggravating the cough, and not unfrequently inducing a hectic paroxysm.

After what has now been said of some of the principal remedies which have been recommended in phthisis, I shall next offer a few remarks concerning regimen, in this disease.

Perhaps a greater number of cures in phthisis have been effected by regimen than by medicine, especially if under the head of regimen be included, not merely diet, but air, exercise, and similar circumstances. To treat of all these, however, at length, would require a very extensive discussion. All, therefore, that is now proposed, is to make a few remarks on some of the principal circumstances.

It has been but too common to prescribe the same diet in every species of phthisis pulmonalis, and at every period of the disease. By many, those labouring under phthisis have been altogether interdicted from the use of animal food. They have even been entirely confined to vegetable diet; or at the utmost have been indulged with a small proportion of milk. That this plan may in some cases be proper, I would not deny; but I have no doubt in asserting, that it has often been attended with a bad effect, and has hastened the death of the patient.

Others, on the contrary, observing the great loss of strength which occurs in phthisis, have absurdly supposed, that it is a disease altogether depending on a high degree of debility. With the view of combating this, they have recommended a very full diet, of the most stimulating food. But from this, there can be no doubt, that equally pernicious effects have resulted, as from the opposite plan of starvation.

It is unnecessary to observe, that the diet best accommodated to the human species, is of a mixed nature. With almost all nations, the articles of diet which they employ are taken, partly from the animal and partly from the vegetable kingdom. The former, however, is upon the whole more stimulant than the latter, which often even exerts a refrigerant effect. But besides both animal and vegetable substances, the food of all the human species, at the very earliest period of life, consists principally of an article which may be considered as in some degree intermediate between the vegetable and animal kingdom, viz. Milk. For although it be immediately afforded from the breasts of the mammalia, yet it does not, like other animal fluids, and the softer solids, run directly into the putrefactive process, but is in the first instance, like vegetables, subjected to an acescent fermentation. Milk, however, furnishes a mild and nutritious aliment, not only to infants, but to adults.

In judging of that diet which is best suited to particular conditions of certain diseases, due attention must be paid to its effects upon the system. These effects are chiefly of two kinds. They either arise from the immediate influence which alimentary matters exert upon the stomach, or from the influence which they have as entering the mass of circulating fluids. With regard to the effects arising from an action on the stomach, alimentary articles differ from each other, as being more or less stimulant. From the immediate influence which some of them exert, in consequence of their action on the sentient extremities of the nerves of the stomach, their stimulant effect is extended over the whole system, and is clearly indicated, both by an augmentation of the celerity and momentum of the pulse, and by an increased sense of heat. Other articles, again, are of so mild and bland a nature, that they produce no obvious effect; while there are certainly articles which evidently demonstrate their possessing what have been called refrigerant qualities, inducing both a sense of coldness, and diminishing the impetus of circulation.

From the influence of different alimentary matters, as entering the system, their effects vary chiefly as they are more or less nutritious. Some articles certainly afford a much larger proportion of chyle than others, when taken to the same extent, or to the same weight; and some articles yield a much richer and more nutritious chyle than others. For there is every reason to believe, that the same varieties may take place with regard to chyle as with regard to milk. This last fluid, in the case of that animal the milk of which is chiefly employed as an article of diet, the cow, is well known to be much affected by the food on which she is supported: hence the superiority of the milk of a cow fed on old pasture, over that of the very same animal when fed on turnip. Nay, there can be no doubt, that, by the copious introduction of water into the stomach of the animal, the watery part of a cow's milk bears a much greater proportion to the oleaginous or coagulable parts, to the butter or cheese, than it does when she is restrained to a small quantity of fluid. Accordingly, it has been alleged, that certain dealers in milk, employ artificial means of exciting thirst in their cows, that the animal may be induced to drink a large quantity of water. In consequence of this, a larger quantity of watery milk is drawn from the animal, the natural milk being as it were watered in her udder.

From what has now been said, it follows, that the articles commonly employed in diet, may, with propriety be divided into four species: the Stimulant, the Refrigerant, the Nutritious, and the Spare. In a great majority of those diseases requiring a spare diet, particularly those accompanied with plethora, and occurring in the sanguine temperament, as in hemorrhagies, inflammations, or the like, it is proper that the diet should not only be the spare, but should also be of the refrigerant kind. On the other hand, in most of those diseases where a stimulant diet is indicated, where it is necessary to support the impetus of circulation, and to counteract a state of debility and exhaustion, the diet, while it is stimulant, should also be nutritious. Hence, it has with many been a general rule always to combine the refrigerant with the spare diet, and the stimulant with the nutritious.

This general rule has in particular been often observed in giving directions with regard to the diet of phthisical patients; and in my opinion, the observance of it has often done much mischief. It has been supposed by some, that even when a phthisical patient is in the most exhausted condition, and in a state of the utmost debility, there still prevails in the system an inflammatory tendency, and that the quickness of the pulse, even when it is the weakest and most compressible, still contra-indicates the employment of any food, either stimulant or even nutritious. Accordingly, while to patients in a state of the utmost exhaustion and emaciation, as marked by the *facies Hippocratica,* they have directed repeated small bleedings; they have also strictly enjoined the most spare and refrigerant diet. With this view, they have directed that it should be entirely taken from the vegetable kingdom; and they have recommended principally, not the most nutritious vegetables, as the farinaceous grains and mucilaginous roots, but those of the refrigerant kind, as the acescent fruits, and cooling laxative greens. From these, they have concluded, that while such support is afforded to the system, as will prevent great uneasiness from hunger, nothing is to be apprehended as increasing a plethoric state; and from the influence which these refrigerant vegetables exert upon the stomach, they have at the same time expected, that they would prove useful, as diminishing the celerity of the pulse, and the impetus of the blood.

From these circumstances, such diet may seem particularly adapted to the earliest stages of the disease, especially where there is reason to dread that either frequent hemorrhagies from the lungs, or an active inflammation within the chest, will terminate in an apostema; for, in order to prevent such a termination, while a considerable discharge by bloodletting is requisite, it is certainly proper to avoid those articles which can furnish a large supply of rich chyle, even although they should be, like milk, of the very mildest nature. Hence, in certain stages of the Apostematous Phthisis, it may be proper to enjoin a diet entirely of refrigerant vegetables; or, when these do not satisfy hunger, it may be proper to allow no other addition to the vegetable diet than a small quantity of milk, and that, too, not in its richest state, but as deprived of its most nutritious part. Hence, some have advised butter-milk in preference to fresh drawn cow's milk, or have directed that the fresh cow's-milk should be employed somewhat diluted, and with the addition of a small quantity of sugar. By this means, in its sensible qualities, and probably also in its effects on the system, it will approach nearly to ass-milk; for there can be no doubt, that ass-milk, and even mare's-milk differ principally from cow-milk, in containing a less proportion of the butyraceous and coagulable or cheesy matter, and a larger proportion of the saline, or, perhaps, more properly the saccharine part. But, although this diet may be well fitted for the beginning, or rather for the prevention of apostema, yet, after an apostema is really formed, and after, by the bursting of that apostema, an opportunity is afforded for a free discharge of purulent matter, it is no longer advisable. On the contrary, a more nutritious diet is essentially necessary for giving the ulcer a chance of healing, by which alone a recovery can be expected.

In the incipient state of the Catarrhal Phthisis, the diet should be nearly the same as in the beginning of the Apostematous; for here also there is in some degree an inflammatory affection of the internal surface of the lungs. Hence, whatever will much augment the impetus of circulation is to be avoided. But even in the incipient state of catarrhal phthisis, there are not the same reasons for wishing to diminish the impetus of circulation as in the apostematous; and when the patient is much debilitated, the system requires to be recruited and supported. Hence, though stimulant articles are to be shunned, yet advantage may be derived from nutritious aliment; and to this species of phthisis, even from the commencement, a more liberal diet is well suited. Where milk agrees with the stomach, it is as little stimulant, and often as easily digested, as any vegetable; and accordingly, in different forms, it may constitute a considerable part of the diet with advantage.

Respecting the proper diet in Tuberculous Phthisis, much difference in opinion has taken place. On the one hand, it has been contended, that here the greatest danger is to be dreaded from inflammation and consequent suppuration at the tubercles; and on this ground, the most spare and the most refrigerant diet has been strictly enjoined. But, on the other hand, it has been alleged, that this modification of the disease derives its origin from a scrofulous constitution; and that, to other modifications of scrofula, low diet is by no means best accommodated. On the contrary, there can be little doubt, that scrofula is often produced by a very poor and meagre way of life. On this footing, therefore, by some, a generous, and even a stimulant diet has been advised. Of these two opposite opinions, neither, perhaps is to be adopted.

In the tuberculous, as well as in other species of phthisis, in the incipient state, it is unquestionably an object of importance to avoid inflammation; but notwithstanding every precaution, inflammation at the tubercles, terminating in ill-conditioned suppuration, will occur; and when it does take place, it is only by a certain degree of vigour in the system, that proper purulent and adhesive inflammations can be induced, eed. The healing of tuberculous ulcers in the lungs, as well as of scrofulous sores at other parts, is only to be expected from recruiting and giving vigour to the system. In this state of the disease, therefore, a nutritious diet is naturally indicated; and indeed, the evident marks of exhaustion point out the propriety of a due supply. Besides these particulars, a liberal and nutritious diet is often indicated in this species of phthisis by the feelings of the patient; for it is by no means uncommon to observe even a craving for animal food; and it may be remarked, that in very rare instances only are such calls of nature entirely to be neglected. In every case some indulgence is perhaps advisable; and the practitioner should form his judgment, not from preconceived opinion, but from the effects which he observes in any particular case after a trial is made. Judging from my own experience, I have no hesitation in asserting, that, in most instances of tuberculous phthisis, and during almost the whole course of the disease, a nutritious diet may be employed with great advantage; and that, on the contrary, a rapid progress of the affection to a fatal conclusion is the consequence of very spare diet.

While, however, I am thus an advocate for a nutritious, I would by no means advise a stimulant diet. A great part of the diet in this species also may, with advantage, consist of milk. The animal food selected should be nutritious, but at the same time mild. Animal substances of an alkalescent nature are to be avoided. The animal food employed should always be plainly dressed. It may be thus taken to some extent in a solid state; but it should be chiefly used under the form of good animal broths or animal jellies.

The same general regulations which have been given with respect to diet, in some degree also apply to the Drink of phthisical patients. To a certain extent, the natural cravings of the patient are to be attended to, and the quantity of drink is to be regulated by the degree of thirst which may take place. From the use of mere diluents quenching thirst, no inconvenience will arise from free indulgence of that appetite, even during the time of colliquative sweats and colliquative diarrhœa. Care need only be taken to direct such fluids as have not a particular tendency to increase these evacuations. With profuse sweatings, acidulated drinks are to be preferred, and with diarrhœa, drinks of a mucilaginous nature; but toast water, and milk diluted with water, may be employed in almost any case. In certain instances, it may be proper, in conjunction with diluents, to mitigate thirst by acescent fruits, oranges, tamarinds, or the like. Drinks of the cordial and stimulant kind are rarely admissible; but when there is a strong craving for these, they should not altogether be denied. The safest and best that can be employed is wine under the form of negus. I can recollect only one instance where the patient, a young girl, had a craving for spirits,—a liquor to which in health she had been altogether unaccustomed. In that case, the patient was indulged in the use of diluted spirits to a small extent; but the disease in a short time had a fatal termination;

termination ; the spirits, so far as I could judge, producing neither a good nor bad effect.

If attention be necessary to the aliment of patients labouring under phthisis, it is no less requisite to the Air which they breathe. It has often been thought, that very great benefit in phthisis has been obtained by a change of air, even from one part of Britain to another. Many have attributed the good effects which have followed removal from other parts of Britain to Bristol, much more to the patient's breathing the pure air of Clifton, than to any efficacy in the Bristol waters ; but no more peculiar virtue can be attributed to the air than to the water of Bristol. There can, however, be no doubt, that it is beneficial to a phthisical patient, to be removed from the air of towns, contaminated by the smoke of many fires, and from any situation even in the country where the atmosphere is peculiarly cold and moist. When removed to warmer climates, a moist atmosphere, and a hot situation conjoined with moisture, or with noxious exhalations, are equally to be avoided. A pure and a dry atmosphere, as far as it can be obtained, is to be selected: And if, before the commencement of the disease, the patient has come from a healthy situation in the country to live in a large town, a removal to his native air will in general be advantageous, not merely as affording a purer atmosphere, but as putting it in his power to enjoy amusement with the companions of his youth, and have, perhaps, the attendance of affectionate relations.

But while pure and dry air are sought for, the temperature of the air is not unworthy of attention. Extremes of heat and cold, whether in the open air or in the chamber in which the patient is kept, are equally to be shunned; but of the two, from the extreme of cold most is to be apprehended. The winter cold of the external air in Britain can seldom be borne without injury; and where circumstances prevent a change of climate, it is often advantageous even for a patient who has sufficient strength to take exercise in the open air, to confine himself to the house during the coldest months in the winter.

But confinement to the house in Britain is not more necessary as a means of guarding against cold, than against the sudden vicissitudes of the weather. Hence the advantage of removing for the winter months to a more southern and more steady climate. It has been advised by some, that phthisical patients should reside near the sea. In such a situation, in every climate, both the cold of winter, and heat of summer, are somewhat moderated. But it has been imagined, that besides the temperature, peculiar advantage may be derived from sea air. Of late, however, a very different doctrine has been held. Dr Carmichael Smyth, in a late valuable treatise on consumptions, alleges, both from his own experience and that of other eminent practitioners, that sea air is very generally prejudicial to phthisical patients. I must, however, observe, that, in my own practice, I have seen nothing tending to confirm this opinion. Whether near the sea, or at a distance from it, what is chiefly to be sought for is a comfortable situation, where the patient may breathe pure air.

After what has been said of the temperature of the air, it is hardly necessary to add any thing respecting clothing. This must be entirely accommodated to the situation of the patient. While care is taken to guard against an uneasy sense of cold, it is equally necessary to shun what will induce sweating; and the patient should neither be oppressed with a load of bed-clothes, nor fatigued with the weight of wearing apparel. The object aimed at should therefore be, to obtain moderate warmth, combined with lightness; and for this purpose, it will in general be advantageous to wear thin flannel or cotton cloth next the skin. These are particularly beneficial, where the patient sweats much, as, from absorbing moisture, they prevent that sense of coldness which arises from a linen shirt, while, at the same time, they support uniform circulation at the surface.

Besides the discharge by the surface, attention must also be paid to the discharge by the bowels. Inconvenience always arises from a state of constipation. But still more is to be dreaded from the induction of diarrhœa. When constipation occurs, therefore, the most gentle laxatives should alone be employed; and it is much more desirable to obtain a regular discharge by diet than by any medicines.

While it is of importance to regulate the discharges from the body, so it is also of very great consequence to regulate the passions of the mind. The state of mind should be kept as equable as possible. In this disease, however, more perhaps is to be dreaded from the exhilarating than from the depressing passions. For it has been marked as a peculiarity of phthisis, that the patient is almost never apprehensive of danger. During the febrile accessions in particular, in place of that *anxietas febrilis*, which is the constant attendant of idiopathic fever, there is often such a flow of spirits, as to require being moderated; or at least, it is necessary to shun what will tend farther to exhilarate. At the same time, it is equally necessary to avoid what will depress the patient; and even where there is very faint expectation of recovery, the chance of such na event will be diminished, by endeavouring to make the patient fully sensible of his own danger.

Exercise in various forms has been strongly enjoined as a mode of cure in every different species of pulmonary consumption. Although there is very little probability that it will remove ulceration, either from a tubercle or apostema, yet it is so much connected with the support of the general health, that without it, other practices can have much less effect. It should always, therefore, be advised, wherever the strength of the patient and the state of the weather will admit of its being taken; and it should be carried, as far as he is easily able to bear without fatigue. Of all the modes of exercise, where the patient has sufficient strength, none is, perhaps, preferable to walking. It tends to support equal and natural heat, and to promote regular circulation through the whole body, even to the inferior extremities. But it must be allowed, that this active exercise is much more apt to induce fatigue, than passive exercise, mere motion, or modes of gestation, as they have been called. Of all modes of gestation, gentle riding on horseback, as giving exposure to free and fresh air, is, perhaps, the best.

Where the patient wants strength for this, advantage may still be derived from riding in a carriage, or even from being carried out in a chair.

A mode of motion still more gentle than either of these, may be obtained from sailing. This, indeed, can hardly be called exercise, though there be a very considerable degree of motion; and one eminent practitioner, Dr CARMICHAEL SMYTH, in a late treatise on this subject, is of opinion, that mere motion is much superior to any exercise. That constant motion without fatigue, may thus be obtained, is certainly true. But notwithstanding this, I would by no means recommend a long sea-voyage, for obtaining such permanent motion. In long voyages, a patient may necessarily expect to be sometimes subjected to bad weather; and on such occasions a weak invalid is unavoidably exposed to numberless inconveniencies. To obtain, therefore, the good effects of this mode of motion, without these inconveniencies, I would prefer a situation near the sea, or some navigable lake, where sailing might be employed every day when the state of the weather was favourable.

As possessing all the advantages of that motion which is given by sailing, without almost any bodily exertion whatever, Dr Carmichael Smyth, in a late publication on the effects of swinging employed as a remedy in pulmonary consumption and hectic fever, has very strongly recommended that motion which may be given to the body in a chair properly suspended. This mode of motion may in most situations be with advantage employed either in the open air or in any large room, when exposure to the external atmosphere is judged improper. I have accordingly often directed it, and I have been led to conclude, that it was used not without advantage. I consider it as, upon the whole, preferable to the motion which is given by a spring-chair or spring-deal. But it has by no means answered in practice those expectations which, from the perusal of Dr Smyth's account, I was led to expect from it; and of all the modes of exercise which have been advised, judging from my own observation, I am inclined to consider walking on foot, as, upon the whole, productive of the greatest advantages.

Having thus stated my sentiments respecting the Remedies and Regimen which have been most highly recommended in Phthisis Pulmonalis, and from which, when properly adapted to the circumstances of the case, there is, in my opinion, the best chance of recovery, I shall conclude my observations with a very few remarks on the means of obviating urgent Symptoms.

It is a fortunate circumstance for the feelings of every medical practitioner, that, even in those diseases where the prospect of recovery is the most faint, and where there is next to certainty of an approaching dissolution in no long time, he still has it often in his power to protract the period of life, and to alleviate the distress of his patient. In many cases of phthisis, this is all that he can reasonably expect to accomplish. The means by which it is to be accomplished

complished must be much varied according to circumstances; and the success of the remedies which are employed to obviate urgent symptoms must depend very much on the prudence and penetration of the physician, exerted at the moment. It is, therefore, altogether unnecessary to treat of these at any length; and I shall here merely take notice of three symptoms, which, before a fatal termination takes place, are very distressing in most instances. These are, the Colliquative Sweats, the Diarrhœa, and the Cough.

Colliquative sweats can hardly, perhaps, be called a distressing symptom. They are productive of no pain, and of little uneasiness to the patient. They do not even prevent sleep, but they tend very much to debilitate the patient; and, perhaps more than any other circumstance, have the effect, even at an early period of the disease, of inducing the loss of fat and of flesh, and even the mark of the utmost degree of exhaustion, the *facies Hippocratica*. By the loss of strength, however, the chance of recovery is certainly very much diminished. Hence, though a free cuticular discharge is often a means of alleviating cough, and of removing catarrh threatening phthisis; yet profuse sweatings in such circumstances are always to be dreaded; and where the patient complains much of loss of strength, are always to be moderated; for this purpose, gentle means of checking them must be employed. They may always be stopped by the exposure of the surface to cold air; but from this, much greater evil than benefit will in most instances result. To obtain good effects from the action of cold upon the surface, great prudence is necessary. The bed-clothes are to be made gradually only, thinner and lighter; and the same prudence is to be observed in thinning the dress of the patient. Nothing, however, in my opinion, tends more to counteract this symptom with safety than substituting for thick flannel the use of cotton-cloth. Cotton shirts and sheets are equally useful in absorbing sweat, as woollen next the skin; and they give comfortable warmth, without the same degree of heat which arises from flannel.

In the way of medicine, various articles may be employed ; but I have found nothing so advantageous as the prudent use of the sulphuric acid properly diluted.

The Diarrhœa, which often occurs in phthisis, can in no degree be supposed to contribute to the recovery of the patient. It is, indeed, of advantage in every instance of phthisis to prevent costiveness ; and it is always a desirable circumstance to keep the bowels rather loose than otherwise ; but this should be attempted to be obtained rather by diet than by medicines. When medicines become necessary, the most gentle emollient cathartics are to be employed ; for it ought to be the object of the practitioner, particularly in the Tuberculous Phthisis, merely to evacuate from the alimentary canal, and not from the system. When catharisis is once induced, it is not always easily stopped, and frequent discharges, under the form of stool, weaken the system little less than profuse sweating. When diarrhœa, therefore, occurs spontaneously, it is always to be stopped, or at least moderated ;

but this should be done rather by diet than by medicine ; by shunning the use of those articles which are observed to encrease it, and by employing what are found to moderate it. This is often obtained by mild mucilaginous broths, particularly veal broth, or melted calf-foot jelly, and by the use of rice in different forms. Where medicines are necessary, I have found nothing better than the Extractum mimosæ catechu, either under the form of electuary or infusion, adding such a proportion of the Tincture of Opium as the circumstances of the case may admit or require.

Of all the symptoms which require to be mitigated, there is none which more frequently demands the attention of the practitioner than the Cough. The action of coughing, as has formerly been observed, is often necessary in the Apostematous Phthisis, for discharging from the lungs great quantities of purulent matter ; and the suppression of that discharge is often immediately productive of very great inconvenience ; but unless as tending to evacuate either their purulent or mucaginous matter from the lungs, it is never beneficial; and it is often highly distressing to the patient, both during day and night, even when it occurs under the form of *tussicula* merely, in the Tuberculous Phthisis. The employment, therefore, of such articles as will tend to mitigate it, is often necessary. For this purpose, an almost infinite variety of articles, either of the demulcent or sedative kind, may be employed with advantage. Even when it is altogether impossible to remove that irritation which induces the convulsive action termed coughing, the effects of the irritation may yet be often suspended or diminished, and that by substances possessing a sedative power, acting either on the fauces, or on the system in general. Of all these substances, none is so useful or so powerful as Opium, which, indeed, I am inclined to consider as the most valuable medicine yet discovered; for, to use the words of the illustrious SYDENHAM, *Sine illo manca sit et claudicet medicina;* and judiciously administered, according to circumstances, it may be productive of the greatest advantage.

But opium, valuable as it is, can by no means be represented as free from inconvenience in this disease. There are some individuals, with whom, from peculiarity of constitution, it always disagrees, and who cannot employ it, even in a very small quantity, without great inconvenience, confusion of head, vertigo, sickness at stomach, vomiting, and various other distressing symptoms. Hence, recourse has been had to a variety of other sedatives, both with the view of allaying inordinate action, and of procuring sleep. Where opium cannot be employed, different articles of this kind, particularly the preparations of the Hyoscyamus niger, and Humulus lupulus, have often been used with advantage; but of all the substitutes for opium which I have ever employed in practice, I have found none from which I have seen so great benefit, as from the preparations formed from the inspissated white juice of the common garden Lettuce. Ever since the days of GALEN, among the Romans, who employed it as a soporific in his own case, this article, like the Papaver somniferum, and many other plants yielding a milky juice, has been known to possess a power of inducing sleep; but for a long time, although constantly cultivated as a sallad, it has been almost entirely neglected as a soporific. A few years ago, some circumstances drew my attention to this article; and I lately published, in the Memoirs of the Caledonian Horticultural Society, an account of different trials which I had made with it. These, I shall not here repeat, but only observe, that of all the medicines which I have employed for alleviating cough in phthisis, and indeed as a sedative in other diseases, next to opium, I have found no article so beneficial as that substance, which, in the Memoirs above mentioned, I have termed Lactucarium.

THE END.

APPENDIX.

As the Memoirs of the Caledonian Horticultural Society will not probably be in the possession of many medical practitioners, it is presumed that the following extract from that work may not be unacceptable to the reader.

* * *

Observations on the preparation of Soporific Medicines from common Garden Lettuce, by Dr A. Duncan senior, *read in the Caledonian Horticultural Society 6th March* 1810, *and printed in the* 1*st Volume of their Memoirs, p.* 160. *et seq.*

Opium, or the inspissated white juice which exudes from the capsule of the *Papaver somniferum,*

ferum, when wounded, has long been allowed to be one of the most useful articles employed in the alleviation or cure of diseases. The high encomium bestowed upon it by the illustrious SYDENHAM *, has been fully confirmed by the testimony of many succeeding practitioners. It is, however, much to be regretted, that there are individuals of the human species, with whom, from peculiarity of habit, opium seldom fails to produce distressing consequences. There are also conditions of disease, in which it may be very necessary to induce sleep, or allay pain, though circumstances occur by which the use of opium at that time is contraindicated. Hence, it has long been a desideratum in the healing art, to discover other powerful quieting medicines. For, although it is hardly to be expected, that an article will ever be discovered, so extensively useful as opium, yet, a good soporific may be found, which, with some, will have less influence, either as exciting sickness at stomach, as occasioning confusion of head, or as inducing a state of constipation.

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* " Ita neccessarium est Opium, in hominis periti manu, " ut sine illo, manca sit, ac claudicet medicina."—*Sydenham, de Dysenteria anni* 1660, *&c.*

It has been the opinion of many, that all the milky juices spontaneously exuding from wounded vegetables, possess somewhat of the same sedative power, with the milky juice of the poppy. Few plants in Britain, afford such milky juice more copiously than the common garden Lettuce, the *Lactuca sativa* of Linnæus; and every one must have observed, that this juice, when spontaneouſly inspissated by the heat of the sun, on the wounded plant, soon assumes the dark colour of opium, while, at the same time, it possesses in a high degree the peculiar, and, I may say, specific taste, which distinguishes that substance. And besides this, it is a well known fact, that lettuce was much used by the ancients as a soporific.

These circumstances led me to turn my thoughts on some method of collecting and preparing this substance, that I might try its effects in the practice of medicine. And, after several trials of different modes of preparation, what I shall now briefly describe are the best methods I have yet been able to discover.

I dedicated to this experiment, in my garden at St Leonard's Hill, near Edinburgh, a small bed of that variety of lettuce, which is commonly known among gardeners by the name of *Ice Lettuce.* I allowed the plants, about a hundred in number, to shoot up, till the top of the stem was about a foot above the surface of the ground. I then cut off about an inch from the top of each. The milky juice immediately began to rise above the wounded surface. Though then of a white appearance, it had next day formed a black, or dark-coloured incrustation, over the surface where the stem was cut off. I found it impossible to separate this by scraping, as is done with the milky juice exuding from the head of the poppy, when it has assumed the form of opium. I therefore cut off with a sharp knife a thin cross slice of the stem, to which the whole of the dark-coloured opium-like matter adhered. This was thrown into a wide-mouthed phial, about half filled with weak spirit of wine, the *alcohol dilutum* of the *Edinburgh Pharmacopœia*, formed of equal parts of rectified spirit and water. By this menstruum, the whole black incrustation on the thin slice of the stalk was dissolved, and the spirit, as may be readily concluded, obtained both the colour and taste of the black incrustation.

Each of my plants, in consequence of the fresh wound inflicted by the removal of the thin cross slice, afforded a fresh incrustation every day. And by throwing these into the phial, I soon obtained what I concluded to be a saturated solution of the exudation from the lettuce, or rather of the milky juice in its inspissated state. It was then strained off, to separate the pure solution completely from the thin slices of the stalk. To this strained spirit, which had nearly both the appearance and taste of the ordinary *laudanum* of the shops, I have given the name of *Solutio spirituosa succi spissati lactucæ.* From trials made with this solution, both on myself and others, I have no doubt that it is a

powerful

powerful soporific. But to obtain a form in which it might be exhibited, with greater certainty as to the dose, I evaporated the spirit, and thus brought the residuum to a dry state. In this state, it has very much the appearance of the opium imported into Britain, particularly of that which is imported from Bengal, and which is a much softer substance than the Turkey opium. To this *opium-like* substance, I have given the name of *Lactucarium.* And from some trials which I have made with it, when exhibited under the form of pills, it appears to me to be little inferior in soporific power to the Opium which is brought from Bengal.

From the *lactucarium* thus obtained, I have formed a tincture. by dissolving it to the extent of one ounce, in twelve of weak spirit, which is the proportion of opium to spirit, in the *Liquid laudanum* of the Edinburgh College. To this formula, I have given the name of *Tinctura lactucarii.* I consider it as the best formula I have yet been able to contrive for obtaining the soporific and sedative powers of the Lactuca sativa. And in different cases, I have, I think, seen manifest good effects from it, both as inducing sleep, allaying muscular action, and alleviating pain, the three great qualities of opium, which demonstrate it to be one of the most powerful sedatives. At present, however, I intend nothing more but to communicate to the Caledonian Horticultural Society a method of preparing a soporific medicine from common lettuce. For ascertaining more fully its medicinal effects, I am at present engaged in a series of trials, which may, perhaps, be likewise communicated to them.

Meanwhile, it will afford me great satisfaction, if the above short account shall draw the attention of others, particularly of professional gardeners, to the same subject, and shall lead to the discovery of a better method of obtaining an useful medicine, from a plant so easily cultivated in every garden. Perhaps this important object might be somewhat forwarded if the Caledonian Horticultural Society were to propose a prize, as a reward to the person who should be most successful in preparing a medicine from the milky juice of the Lactuca. But it should be an essential condition of that prize, that he should send them, not only a specimen of the substance prepared, but also an exact account of his method of preparing it.

* * *

In consequence of the above suggestion, the Caledonian Horticultural Society, at the quarterly meeting on the 6th of March 1810, agreed to propose a Prize Medal for each of the two following questions:

1. For the best method of preparing a soporific medicine from the inspissated white juice of the common Garden Lettuce. Specimens of the medicine to be produced.

2. For the best method of preparing Opium in Britain, and the most advantageous manner of cultivating poppies for that purpose.

* * *

In consequence of the Memoir on Lactucarium read to the Caledonian Horticultural Society by Dr DUNCAN, two distinguished professional gardeners, Mr HENDERSON at Brechin, and Mr GORRIE at Rait, have transmitted to the Society excellent specimens of Lettuce-Opium, with an account of their methods of preparing it. From what they have done, there is reason to hope, that it may be easily prepared to a great extent in Britain.

Mr THOMAS CARMICHAEL, Teacher of Languages, at the Sheriff-Brae, Leith, has, during the summer season 1813, prepared for sale a considerable quantity of Lactucarium; and three different Preparations from that article, compounded according to the annexed formulæ, may be had at the shop of Mr WILLIAM MOFFAT, Apothecary, Nicolson's Street, Edinburgh.

FORMULÆ for different preparations of Lactucarium, a substance obtained from the inspissated white juice of the common Garden Lettuce, according to the method described in the Memoirs of the Caledonian Horticultural Society, Vol. I. p. 160.

1. TINCTURA LACTUCARII.

Recipe Lactucarii, unciam unam;
Alcaholis diluti, libram unam,
Digere per dies septem, et per chartam cola.

2. PILULÆ LACTUCARII.

Recipe Lactucarii, gr. xij.
Pulveris radicis Glycyrrizhæ, scrupulos duos.
Subige cum Syrupo simplice, ut fiat massa, ad pilulas formandas apta; et divide in pilulas duodecim.

3. TROCHISCI GLYCYRRHIZÆ CUM LACTUCARIO.

Recipe Lactucarii, drachmas duas ;
Tincturæ Toluiferæ Balsami, unciam dimidiam ;
Syrupi simplicis, uncias octo ;
Extracti Glycyrrhizæ glabræ, aqua calida moliti,
Gummi Mimosæ Niloticæ in pulverem triti, utriusque uncias quinque.

Primò, tere Lactucarium benè cum Tinctura ; dein paulatim admisce Syrupum et Extractum ; posteà sensim insperge pulverem Gummi Mimosæ Niloticæ ; et tandem exsicca, ut fiat massa, in Trochiscos formanda, singulos grana decem pendentes.

BOOKS Published by Dr Duncan senior, sold by A. Constable and Co. and other Booksellers.

1. Medical and Philosophical Commentaries, exhibiting a concise view of the latest and most important discoveries in Medicine and Medical Philosophy, from 1773 to 1795 inclusive. 20 Vols. 8vo.

2. Annals of Medicine, from 1796 to 1804. 8 vols. 8vo.

3. Elements of Therapeutics, or First Principles of the Practice of Medicine. 8vo. 1770.

4. Observations on the Operation and Use of Mercury in the Venereal Disease. 12mo. 1772.

5. Medical Cases, selected from the Records of the Public Dispensary at Edinburgh, with Remarks and Observations. 8vo. 1778.

6. An Account of the Life and Writings of Dr Alexander Monro *Primus*, delivered as the Harveian Oration, at Edinburgh. 8vo. 1780.

7. A Letter to Dr Robert Jones of Carmarthenshire. 8vo. 1782.

8. Heads of Lectures on the Theory and Practice of Medicine. 8vo. 1790.

9. Thomæ Simsoni, Medicinæ Professoris Candossensis in Academia Andreana, apud Scotos, De Re Medica Dissertationes quatuor, in usum Medicinæ et Humanitatis Studiorum: iterum excudi curabat Andreas Duncan *senior*. His adnectuntur de Asthmate Infantum Spasmodico Dissertatio, auctore Jacobo Simson: De Alvi purgantium Natura et Usu disser-

tatio; et de Laudibus Gulielmi Harvei Oratio, auctore Andrea Duncan. 8vo. 1809.

10. A Letter to Dr James Gregory, in consequence of certain printed Papers, intituled, "The Viper and "File,"—"There is Wisdom in Silence,"—"An "Old Story," &c. which have lately been distributed by him, and which are evidently intended to propagate and support groundless and malevolent calumnies against innocent men. 8vo.

> "*To discover anxiety on account of trifling insinuations that may tend in some measure to affect character is no indication of sense, or of consciousness of integrity; but when malignant lies are invented and seriously told in presence of respectable people, a man must have lost all respect for reputation, if he takes not the proper steps to contradict them.*"
>
> *Memoirs of W.* SMELLIE.

11. Heads of Lectures on the Institutions of Medicine. The sixth edition. 8vo. 1811.

12. Carminum Rariorum Macaronicorum delectus, in usum Ludorum Apollinarium, quæ solenniter Edinburgi celebrantur apud Conventum Gymnasticum Filiorum Æsculapii. Excudendum curabat Andreas Duncan *senior*, Scriba Prætorius et Septuagenarius. 8vo. 1813.

13. A short Account of the Rise, Progress, and Present State of the Lunatic Asylum at Edinburgh, with some remarks on the General Treatment of Lunatics, pointing out the advantages of avoiding all severity Sold for the benefit of the Asylum. 8vo. 1813,

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" As it may be satisfactory to the reader to learn by whose assistance the Encyclopædia Britannica has been brought to its present state of perfection, the following list is subjoined, which the Editor flatters himself will be found to contain the names of various writers eminent for their proficiency in different departments of literature and science.

" For whatever instruction may be contained under the article Anatomy, the public is indebted to the late Andrew Bell, F. S. S. A., the proprietor, who had devoted a great portion of his time and attention to the study of anatomy, and to the ingenious Mr Fyffe, who has practised for many years under Dr Monro, as dissector in the anatomical school of the University; and the whole article Surgery has been written anew by Mr James Wardrop, surgeon in London.

" The articles Aërology, Aërostation, Chemistry, Electricity, Gunnery, Hydrostatics, Mechanics, Meteorology, Mineralogy, with most of the separate articles in the various branches of Natural History, we have reason to believe were originally compiled by the late Mr James Tytler, chemist; but many of them have been entirely re-written, and the others accommodated to the present improved state of these sciences, by Dr James Miller, who superintended the editing of the present work, Dr Kirby, and Dr Brewster of Edinburgh, and Professor Muirhead of Glasgow.

" The article Blind was furnished by the late Dr Blacklock and Dr Moyes, both men of superior attainments, the former in elegant literature, and the latter in the physical sciences.

" Astronomy and Navigation were compiled, the one by Dr Thomas Thomson, and the other by Dr Andrew Mackay; and the articles Algebra, Conic Sections, Fluxions, Geometry, Logarithms, Mensuration, Trigonometry, and some others connected with mathematical science, were furnished by Mr William Wallace of the Royal Military College, Great Marlow.

" The lives of Johnson and Mary Queen of Scots, with the articles Instinct, Love, Metaphysics, Miracle, the history of Ethics under Moral Philosophy, Oath, Passion, Plastic Nature, Polytheism, Prayer, Slavery, and Supper of the Lord, were contributed by the Right Reverend Bishop Gleig of Stirling, editor of the last six volumes of the former edition; Grammar and Theology by Dr Gleig and the Reverend James Bruce, A. B. late of Emanuel College, Cambridge; and Motion by Dr Gleig. The system of Medicine, which was published in the former edition, was revised and improved for the present by Andrew Duncan, M. D. Fellow of the Royal Society of Edinburgh, and Professor of the Institutes of Physic in the University.

" The article Music was furnished by Dr Blacklock for the third edition, and has been considerably improved for the present, by Mr George Sandy, writer to the Signet, and William Maxwell Morison, Esq. advocate, to the latter of whom the Editor is also indebted for what we have published on the science of Physiognomy. The articles Mysteries, Mythology, and Philology, we owe to the erudition of the late Mr David Doig, master of the grammar school of Stirling, and author of two very ingenious Letters on the Savage State, addressed to the late Lord Kames.

" Navigation, Parallax, Pendulum, Projection of the Sphere, and Ship-building, were furnished by the late Andrew Mackay, LL. D. long known to the public as an able mathematician; and the article War, including Naval Tactics, by Dr Kirby.

" In the former edition, the valuable articles Physics, Pneumatics, Precession of the Equinoxes, Projectiles, Pumps, Resistance of Fluids, River, Rotation, Seamanship, Signals, Sound, Specific Gravity, Statics, Steam, and Steam-Engine, Strength of Materials, Telescope, Tide, Articulating Trumpet, Variation of the Compass, and Water-Works, were originally written by Professor John Robison. These articles have not been materially altered in the present edition; and to those who are at all acquainted with the various and original acquirements of that author, it is altogether unnecessary to enter particularly into their merits.

" Philosophy is the joint production of Professor Robison and Dr Gleig. Physiology was furnished by John Barclay, M. D. of Edinburgh, and Midwifery by Dr James Hamilton junior. For a continuation of the History of India, the editor is indebted to Dr William Tennant, who resided long in that country. The articles Political Economy and Taxation, are written by Mr Hugh Murray; Gardening by Mr James Williamson; and an account of Boscovich's system of Natural Philosophy by Dr Poole."

Of the fifth edition of this work, four volumes are already printed. The whole of the fifth edition, when completed, is to consist of Twenty-four Volumes, or Forty-eight parts, with a greatly improved set of Engravings. A part or half volume will be published on the first day of every month; and as the printing is in considerable forwardness, the Publishers can promise a more regular publication than has ever attended any similar undertaking. And besides all other advantages attached to this work, the proprietors pledge themselves that no additional charge of price shall take place during its progress.

In the fifth edition now offered to the public, it is intended that the Four last Volumes shall consist entirely of Original Articles, that an opportunity may be afforded of exhibiting the arts and sciences in their latest state of improvement. To this part, which is to be considered as distinct from the original body of the work, a Dissertation will be prefixed, on a plan analogous to that of the *Discours Preliminaire* of *D'Alembert*, prefixed to the French *Encyclopedie*, and justly regarded as one of the greatest ornaments of that celebrated work. In the composition of this Preliminary Dissertation, the Proprietors have the high gratification of being able to state to the public, that they have reason to expect the assistance of Mr Dugald Stewart, Professor Playfair, and Sir Humphry Davy, each in his respective department of science.

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